

Linking and Single Sign-On

Programmer Reference

Release 11.2

..... **Foreword**

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Release 11.2

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About This Manual

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Introduction

This *Care360® Linking and Single Sign-On (SSO) Programmer Reference* provides information on integrating a third-party electronic medical record (EMR) into the Care360 Labs & Meds product suite. The linking and single sign-on features allow a third-party EMR to directly access specific functions of Care360 Labs & Meds via single sign-on (SSO).

Additional services available to a linked application include the following:

- **User Summary Services.** The ability to view Care360 Labs & Meds lab result and user message counts from within the linked application.
- **Order Echo.** The ability to receive copies of lab orders and Rx orders placed using Care360 Labs & Meds within the linked application.
- **Patient Demographic Updates.** The ability for the linked application to submit patient add, update, delete, schedule, and merge messages to the Care360 Labs & Meds patient database (via Care360 Hub Information Services).
- **Care360 Labs & Meds User Interface (UI) Customization.** The ability to customize certain elements of the Care360 Labs & Meds user interface to more closely resemble partner applications or product branding.

Disclaimers

- This Programmer Reference provides specifications necessary for exchanging laboratory data between a third-party Service Provider (laboratory) or EMR application and the various components of Care360 Data Exchange. It does not, however, provide documentation on creating or updating an application to produce data files that conform to these specifications.
- All sample code referenced in this Programmer Reference is provided for example purposes only, and it may need to be modified to work in your environment. It is provided “as is,” without warranty of any kind, or support, from Quest Diagnostics®.

What's New in This Release

Care360 Linking and Single Sign-On (SSO) 11.2 provides the following updates and enhancements:

- This *Care360 Linking and Single Sign-On (SSO) Programmer Reference* is a new manual, created from content previously contained within the *Care360 Universal Lab Orders & Results Programmer Reference*.
- Partner applications that link directly to Care360 Labs & Meds must update Care360 references as follows:
 - Care360 is now a registered trademark, so Care360™ must be replaced with Care360®.
 - The Care360 logo must be replaced with the new one shown on in [“Formatting Requirements for Linking to Care360 Labs & Meds”](#) on page 3.
- **SSO Field Definitions.** SSO fields have been updated as follows:
 - PID.4 (Lab Ref ID/ Encounter ID) is now supported.
 - Most fields are now optional. Following is the list of required fields:
 - PID.2 (PID or SSN; only one of these is required)
 - PID.5 (Last name and First Name)
 - PID.7 (Birth Date)
 - PID.8 (Gender)
 - PID.11 (Address line 1, State, and Zip)

For complete details, see [“SSO Field Definitions”](#) on page 5.

- **Patient Demographic HL7 Specification.** The following updates have been made:
 - **SIU message.** The following SIU message segments have been corrected:
 - **RGS (Resource Group).** RGS.03 (Resource Group ID) has been added and the names and descriptions of RGS.01 (Set ID) and RGS.02 (Segment Action Code) have been corrected. For more information, see [“RGS—Resource Group Segment”](#) on page 145.
 - **AIL (Appointment Information—Location).** AIL.00 (Segment Type ID) has been added. The description for AIL.01 (Set ID), which was actually that for AIL.00, has been moved to AIL.00. For more information, see [“AIL—Appointment Information—Location Segment”](#) on page 147.
 - **AIP (Appointment Information—Personnel Resource).** AIP.00 (Segment Type ID) has been added. The description for AIP.01 (Set ID), which was actually that for AIP.00, has been moved to AIP.00. For more information, see [“AIP—Appointment Information—Personnel Resource Segment”](#) on page 148.
 - **NK1 (Next of Kin) segment.** Because it is not currently supported by Care360 Labs & Meds, the NK1 segment description table has been removed from the following messages:
 - [“ADT A28 \(Patient Add\) Message Segment Specifications”](#) on page 59.
 - [“ADT A31 \(Patient Update\) Message Segment Specifications”](#) on page 93.

The NK1 segment has also been removed from [“Sample Patient Demographic Messages”](#) on page 178.

Documentation Conventions

This manual uses the following conventions:

- Manual titles, special terms, Web page and dialog box titles, menu items, toolbar button names, labels that appear on Web pages and dialog boxes, and keyboard key names appear in *italic*.
Italic is also used to indicate variables. For example, an e-mail address might be presented as *name@company.com*. When typing the address, you would use the actual user name and company name rather than *name* and *company*.
- Words that are being emphasized appear in **bold**.
- Text that you type as well as messages and prompts that appear on the screen appear in *this type style*.
- The greater than symbol (>) indicates a series of menu items to click. For example, the instructions to click the *File* menu item and then click *Open* might be presented in the following way: “Click *File > Open*.”
- This manual calls your attention to important information in several ways:

Note: A note indicates exceptions to the stated rule or information that emphasizes or supplements important points in the main text. A note can supply information that might apply only in special cases.

CAUTION! A caution indicates that failure to take or avoid a specified action could result in losing data. When you see a caution, follow the instructions carefully.

- This manual may contain cross-references to external documentation to which you may not currently have access. Please contact the MedPlus Professional Services Group (PSG) to obtain a copy of any additional product documentation that you require.

Abbreviations and Acronyms

The following is a list of abbreviations and acronyms that are used in this manual.

Abbreviation/ Acronym	Description
ADT	Admission Discharge Transfer
AMA	American Medical Association
API	Application Programming Interface
BU	(Quest Diagnostics) Business Unit
CCR	Continuity of Care Record
CMS	Centers for Medicare and Medicaid Services
CPT®	Current Procedural Terminology
CRNA	Certified Registered Nurse Anesthetists
DFT	(HL7) Detail Financial Transaction message
DOB	Date of Birth
EHR	Electronic Health Record
EMR	Electronic Medical Record
HCPCS	Healthcare Common Procedure Coding System
HL7	Health Level Seven
HTTP	Hypertext Transfer Protocol
HTTPS	Hypertext Transfer Protocol, Secure
ICDA	International Classification of Diseases
ICD9 or ICD-9	International Classification of Diseases (of the World Health Organization), 9th Revision
IPA	Independent Physician Association
MDM	(HL7) Medical Document Management message
MRN	Medical Record Number
NPI	National Provider Identifier
NDC	National Drug Code
PBM	Pharmacy Benefit Manager
PDF	Portable Document Format
PMS	Practice Management System
PPMS	Physician Practice Management System

Abbreviation/ Acronym	Description
SAML	Security Assertion Markup Language
SOAP	Simple Object Access Protocol Note: As of SOAP v1.2, referred to only as an acronym.
SIU	(HL7) Patient Schedule message
SSL	Secure Sockets Layer
SSO	Single Sign-On
UB	Universal Bill
UDDI	Universal Description, Discovery, and Integration
UPIN	Universal Physician Identifier Number
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
W3C	World Wide Web Consortium
WSDL	Web Services Definition Language
XML	eXtensible Markup Language

Related Documentation

In addition to this Programmer Reference, the following resources are also available for the individual components of Care360 Data Exchange:

- **Care360 EHR Interfaces Programmer Reference.** Provides information on integrating a non-Quest Diagnostics service provider (laboratory) and/or third-party electronic medical record (EMR) or electronic health record (EHR) application into the Care360 Labs & Meds product suite. The integration of a third-party laboratory or EMR/EHR application involves the following primary services:
 - **Universal Lab Orders.** The ability to submit lab orders to a third-party laboratory via Care360 Labs & Meds, or via a third-party EMR/EHR application.
 - **Universal Lab Results.** The ability to receive test results and radiology results generated by a third-party laboratory via Care360 Labs & Meds, or via a third-party EMR/EHR application.
- **Care360 Labs & Meds User Manual.** Provides information on accessing and using the Care360 Labs & Meds application, which includes the integrated *Lab Orders* function. Intended for end users of the application, including physicians, clinicians, phlebotomists, clinical office staff, and administrative office staff.

Third-Party Internet Resources

The following is a list of third-party resources (available via the Internet) that you can access for more information on specific programming subjects.

Subject	Internet Resources	
Health Level 7 (HL7®)	Health Level Seven (HL7), Inc.	http://www.hl7.org/
SAML	Security Assertion Markup Language	http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=security
SSL Certificates	VeriSign® SSL Certificates	http://www.verisign.com/products-services/security-services/ssl/



Chapter 1

Linking to Care360 Labs & Meds

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In This Chapter:

- [About Linking and Single Sign-On \(SSO\)](#) 2
- [Customizing the Care360 Labs & Meds User Interface](#) 11
- [About the Care360 SSO and Web Services Site](#) 14
- [About Lab Order Echo](#) 17
- [About Rx Order Echo](#) 19

About Linking and Single Sign-On (SSO)

This chapter provides information about linking from a partner application—for example, an electronic medical record (EMR) application, electronic health record (EHR) application, or practice management system (PMS)—to Care360 Labs & Meds. Application linking enables the partner application to directly access specific functions of Care360 Labs & Meds, from within the context of the partner application.

Linking to Care360 Labs & Meds enables a partner application to effectively offer lab order and result services through an existing EMR solution. Users can launch directly into a specific Care360 Labs & Meds function, using SSO and maintaining their current patient context. SSO access allows the user to transparently log in to Care360 Labs & Meds from within the partner application. (For more information about SSO, see [“About Single Sign-On \(SSO\)”](#) on page 4.)

A partner application that is linked to Care360 Labs & Meds can also take advantage of a number of related services, including the following:

- **Care360 Labs & Meds UI customization.** For more information, see [“Customizing the Care360 Labs & Meds User Interface”](#) on page 11.
- **Lab order echo.** For more information, see [“About Lab Order Echo”](#) on page 17.
- **Rx order echo.** For more information, see [“About Rx Order Echo”](#) on page 19.
- **User Summary services.** For more information, see [Chapter 3, “User Summary Services API Reference”](#) beginning on page 33.
- **Patient demographic services (Inbound and Outbound).** For more information, see [Chapter 4, “Patient Demographic Services API Reference”](#) beginning on page 43.
- **PMS Integration.** For more information, see [“DFT^P03 \(Detail Financial Transaction\) Message Segment Specifications”](#) on page 151.

Note: A partner application must allow users to view Care360 Labs & Meds in its native resolution (1024x768), displaying all existing menus, headers, and other navigation elements. In most cases, Care360 Labs & Meds will appear in a new browser window; otherwise, the partner application must display in a higher resolution so that Care360 Labs & Meds can appear in a separate frame within the application.

Care360 Labs & Meds Functions Available for Linking

A partner application can link directly to the following Care360 Labs & Meds functions (also referred to as the “landing” page):

- **New Results.** The EMR user can directly access the Care360 Labs & Meds *New Results* page to view the latest test results that have been received for *all* of their patients. Results can be viewed or printed, and can be forwarded to other Care360 Labs & Meds users via user messaging or fax.
- **Lab Orders.** The EMR user can directly access the Care360 Labs & Meds *Lab Orders* page to create an electronic lab order for submission to either a Quest Diagnostics Business Unit (BU) or a third-party laboratory for processing. The link to Lab Orders can occur in one of the following ways:
 - With patient context—*Lab Orders* opens with the current EMR patient’s data pre-populated, based on the patient’s PID.
 - Without patient context—*Lab Orders* opens with no specific patient pre-populated. The user can then search for a patient within *Lab Orders*, as needed.

- **Patient Summary.** The EMR user can directly access the Care360 Labs & Meds *Patient Summary* page. In Care360 Labs & Meds, a Patient Summary is essentially a “collapsed” or summarized view of the patient’s complete chart. To view a more detailed history for the patient, you can access individual items within each section of the Patient Summary to display additional data.
 - Patient Summary (fully expanded)—*Patient Summary* opens with all of the patient’s latest data displayed, as well as all of the page’s navigational features visible.
 - Patient Summary (collapsed) with Write a Prescription displayed—*Patient Summary* opens with a summarized view of the patient’s chart, with only the *Write a Prescription* task link visible.
 - Patient Summary (collapsed) with Write a Lab Order displayed—*Patient Summary* opens with a summarized view of the patient’s chart, with only the *Write a Lab Order* task link visible.
- **Action Items Inbox.** The EMR can directly access the *Action Items Inbox* screen related to their organization.
 - *Pending Items*—Displays a collapsed view of the pending items for the logged-in user. Click for an expanded view.
 - *Renewal Items*—Displays a collapsed view of the pending items for the logged-in user. Click for an expanded view.
 - *Failed Faxes*—Displays a collapsed view of failed faxes sent by the logged-in user. Click for an expanded view.

Once the user has linked to a particular Care360 Labs & Meds function, the user can then access the entire Care360 Labs & Meds application, limited only by their assigned access permissions. For information about using specific Care360 Labs & Meds functions, refer to the *Care360 Labs & Meds User Manual* or online help.

Formatting Requirements for Linking to Care360 Labs & Meds

When a partner enables users to link directly to Care360 Labs & Meds functions, the link that appears within the partner application must be formatted according to the following guidelines:

- The full Care360 Labs & Meds product name must be displayed whenever possible, and should appear as shown below:
Care360® Labs & Meds
- The registered trademark symbol (®) must always follow Care360.
- If the partner application will display a Care360 logo, the following logo must be used:



Note: You can obtain the Care360 logo from the Care360 Labs & Meds SSO and Web Services site. For more information, see [“About the Care360 SSO and Web Services Site”](#) on page 14.

Prior to appearing in a production environment, any links to Care360 Labs & Meds must be submitted (through the project manager) for compliance review and approval.

About Single Sign-On (SSO)

When a partner application establishes a link to Care360 Labs & Meds, the user of the partner application can transparently log in to Care360 Labs & Meds via the SSO capability. That is, the user is not required to log in separately to Care360 Labs & Meds in order to use its services. This allows the user's workflow to continue uninterrupted, and reduces the number of steps and pages necessary for the user to complete a task.

The basic steps to establish an SSO connection to Care360 Labs & Meds are as follows:

- ☐ An authorized user logs in to the partner application.
- ☐ Within the partner application, the user activates a link to the desired Care360 Labs & Meds function, and is immediately redirected to the appropriate area of Care360 Labs & Meds. If possible, the user's current patient context is maintained within the selected Care360 Labs & Meds function (see [“Maintaining Patient Context”](#), below).
- ☐ The partner application performs user authentication (in the background) to Care360 Labs & Meds.

Note: Authentication to Care360 Labs & Meds is managed through the Sun Java™ System Access Manager, which utilizes the Security Assertion Markup Language (SAML) single sign-on protocol, using 128-bit encryption. For details on establishing an SSO connection to Care360 Labs & Meds, see [“About the Care360 SSO and Web Services Site”](#) on page 14.

Maintaining Patient Context

When a user accesses a Care360 Labs & Meds function via SSO, the current patient context is automatically maintained between the two applications whenever possible. For example, if the user has already searched for a particular patient within the partner application, and then wants to place a new lab order for that patient, the user clicks the appropriate link and Care360 Labs & Meds opens to the *Lab Orders* function, with the same patient preselected.

There are two ways in which patient context is maintained:

1. The partner application can use the Patient Demographic Services to submit ADT messages to Care360 to populate the Care360 database with patient demographic information. The partner application can then pass their unique patient identifier (PID) to Care360 Labs & Meds, so that a search for the matching patient can be performed as the linking occurs. If an exact PID match is found, then the patient context is maintained; otherwise, the user can access the selected Care360 Labs & Meds function, but will need to manually search for the desired patient.
2. For applications that do not utilize the ADT messaging, the partner application can pass an additional HTTP Post parameter name Care360Transaction with the initial SSO request. The value of this parameter is XML which follows the rules defined in <http://custcenter.medplus.com/tech-support/portalcenter/docs/xsd/Care360Transaction.xsd>. This field can contain various forms of information, one of which is patient demographics. The demographics information contained within the message is used to create a patient if one does not exist. This method relies solely on the ability of the partner application to identify a patient using a unique patient identifier (PID) and provide a full set of patient demographics on the SSO request to Care360 Labs & Meds.

When using this method, the information provided by the partner application is always considered the most accurate (that is, it overrides any existing data in Care360 Labs & Meds). The patient demographics part of the Care360Transaction XML is based on the HL7 A31 segment, defined by the xsd file http://custcenter.medplus.com/tech-support/portalcenter/docs/xsd/ADT_A31.xsd. The value of the Care360Transaction parameter must be base64 encoded by the partner application.

When utilizing the Care360Transaction method and requesting to land on the lab orders function, a partner application must include the bill type (client, patient, or insurance) and associated required fields.

SSO Field Definitions

The table below describes the required fields for each available bill type. The Care360 transaction method also allows for the inclusion of diagnosis codes and test codes via the laborderInfo node when requesting the Lab Orders function. The XSD files used to define the contents of the care360Transaction HTTP parameter and a Care360 transaction example XML message can be accessed from the following URL:
<http://custcenter.medplus.com/tech-support/portalcenter/>

				Bill Types - These are the required fields based on what is sent ^a			
Header	XML Main Tag	XML Sub Tag	Description	Client	Patient	Insurance	ePre
lab.Lab Order Info	dxCodes		Diagnosis Code (ICD9 Codes) 10 codes max	O	O	O	I
	testCodes		Order Code (Quest Diagnostics Specific) 15 codes max	O	O	O	I
PID.Patient Information	PID.2	CM_Pat_ID.1	Unique patient ID *Note: The patient ID or SSN is always required. If patient SSN (PID.19) is supplied, patient ID is optional.	R*	R*	R*	R*
	PID.4		Lab Ref ID/ Encounter ID	O	O	O	O
	PID.5	PN.1	Last name of patient	R	R	R	R
	PID.5	PN.2	First name of patient	R	R	R	R
	PID.5	PN.3	Middle initial of patient	O	O	O	O
	PID.7	TS.1	Birth Date (mm/dd/yyyy or mmddyyyy)	R	R	R	R
	PID.8		Gender (M/m or F/f) Note: "Unknown" gender will display blank.	R	R	R	R
	PID.11	AD.1	Address 1	R	R	R	R
	PID.11	AD.2	Address 2	O	O	O	O

				Bill Types - These are the required fields based on what is sent ^a			
Header	XML Main Tag	XML Sub Tag	Description	Client	Patient	Insurance	ePre
PID.Patient Information, <i>continued</i>	PID.11	AD.3	City	O	O	O	O
	PID.11	AD.4	State (2-digit alpha)	O	R	R	R
	PID.11	AD.5	Zip (5 or 9 digits, no hyphens or dashes allowed)	R	R	R	R
	PID.11	AD.6	Country	O	O	O	O
	PID.13		Home Phone (1234567890, no hyphens or dashes allowed)	O	O	O	O
	PID.14		Work Phone (1234567890, no hyphens or dashes allowed)	O	O	O	O
	PID.19		SSN (9 digits, no hyphens or dashes allowed) *Note: The patient SSN or ID is always required. If patient ID (PID.2) is supplied, patient SSN is optional.	R*	R*	R*	R*
GT1.Guarantor Information	GT1.3	PN.1	Last Name	O	R	R	O
	GT1.3	PN.2	First Name	O	R	R	O
	GT1.3	PN.3	Middle Initial	O	O	O	O
	GT1.5	AD.1	Address 1	O	R	R	O
	GT1.5	AD.2	Address 2	O	O	O	O
	GT1.5	AD.3	City	O	R	R	O
	GT1.5	AD.4	State (2-digit alpha)	O	R	R	O
	GT1.5	AD.5	Zip (5 or 9 digits, no hyphens or dashes allowed)	O	R	R	O
	GT1.5	AD.6	Country	O	O	O	O
	GT1.6		Home Phone (1234567890, no hyphens or dashes allowed) Note: Home phone number is recommended for bill types of patient (IN1.47 = P) and insurance (IN1.47 = T). If home phone number is not provided, it must be entered manually before an order can be placed.	O	O	O	O

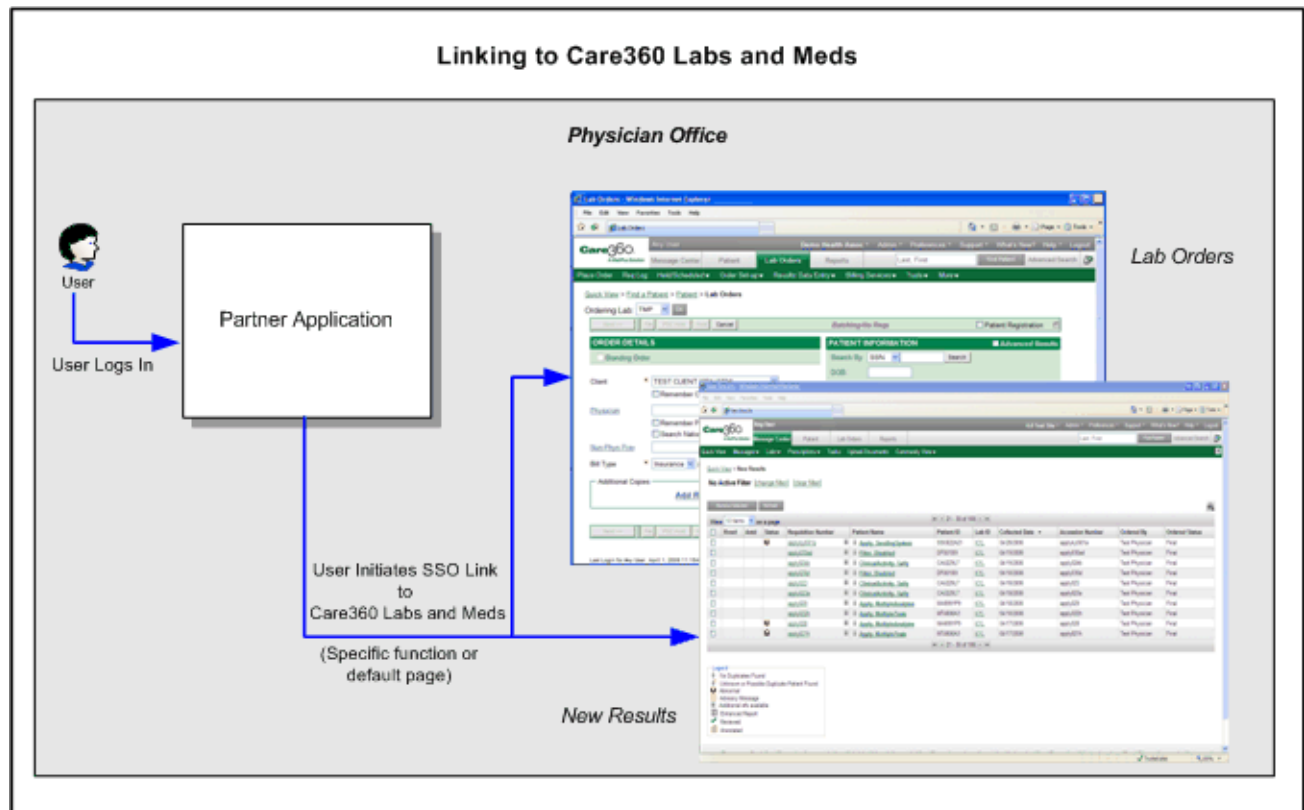
				Bill Types - These are the required fields based on what is sent ^a			
Header	XML Main Tag	XML Sub Tag	Description	Client	Patient	Insurance	ePre
GT1.Guarantor Information, <i>continued</i>	GT1.7		Work Phone (1234567890, no hyphens or dashes allowed)	O	O	O	O
	GT1.8		Birth Date (mm/dd/yyyy or mmddyyyy, no hyphens or dashes allowed)	O	O	O	O
	GT1.9		Gender (M/m or F/f) Note: “Unknown” will display as blank.	O	O	O	O
	GT1.11		Relationship to patient 1 = Self 2 = Spouse 3 = Child	R	R	R	O
	GT1.12		SSN (9 digits, no hyphens or dashes allowed)	O	O	O	O
Employer Information	GT1.16		Employer Name	O	O	O	O
	GT1.17	AD.1	Address 1	O	O	O	O
	GT1.17	AD.2	Address 2	O	O	O	O
	GT1.17	AD.3	City	O	O	O	O
	GT1.17	AD.4	State (2-digit alpha)	O	O	O	O
	GT1.17	AD.5	Zip (5 or 9 digits, no hyphens or dashes allowed)	O	O	O	O
	GT1.17	AD.6	Country	O	O	O	O
IN1. Insurance Information	IN1.3		Insurance Company ID (Quest Diagnostics billing code) Valid insurance IDs appear in the order entry <i>Insurance ID</i> field in Lab Orders and Results.	I	O	R	O

				Bill Types - These are the required fields based on what is sent ^a			
Header	XML Main Tag	XML Sub Tag	Description	Client	Patient	Insurance	ePre
IN1. Insurance Information, <i>continued</i>	IN1.4		Insurance Name Valid insurance names appear in the <i>Select Carrier</i> drop-down list in Lab Orders and Results. Note: Insurance name is recommended for a bill type (IN1.47) of T (Insurance). If insurance name is not provided, it must be entered manually before an order can be placed. If an invalid insurance name is provided, a valid insurance carrier will need to be selected from the carriers listed during order entry.	I	O	O	O
	IN1.5	AD.1	Address 1	I	O	O	O
	IN1.5	AD.2	Address 2	I	O	O	O
	IN1.5	AD.3	City	I	O	O	O
	IN1.5	AD.4	State (2-digit alpha)	I	O	O	O
	IN1.5	AD.5	Zip (5 or 9 digits, no hyphens or dashes allowed)	I	O	O	O
	IN1.5	AD.6	Country	I	O	O	O
	IN1.8		Group Number (no hyphens or dashes allowed)	I	O	O	O
	IN1.36		Insurance ID	I	O	O	O
	IN1.47		Bill Type: P = Patient C = Client T = Insurance	R	R	R	O

a. R = Required, O = Optional, I = Ignored

Process Walkthrough: Linking and SSO

The diagram below illustrates (at a high level) the flow of information between Care360 Labs & Meds and a linked partner application. Following the diagram is a step-by-step walkthrough of the linking and SSO processes illustrated in the diagram.



Initializing a User's SSO Connection

The following steps outline the procedure—and associated systems—involved in initializing an SSO connection from a partner application to Care360 Labs & Meds.

- ☐ MedPlus issues a Care360 Labs & Meds *User ID* and (temporary) *Password* to the partner application user.
- ☐ The user logs in to the partner application as before (using their existing partner application username and password).
- ☐ The first time the user attempts to link to Care360 Labs & Meds from the partner application, a login page appears, prompting the user to enter their assigned Care360 Labs & Meds *User ID* and *Password*.

Note: The user is allowed five attempts to log in using their assigned Care360 Labs & Meds credentials. If the user cannot successfully log in—or if the *User ID* that was entered is already in use—a message appears, indicating that the user must contact Care360 Labs & Meds Customer Support in order to proceed.

- ☐ When the user successfully logs in to Care360 Labs & Meds the first time, their user information and (obfuscated) password are saved to a SAML user mapping table.
 - ☐ After the user's information has been successfully saved to the mapping table, the password is disabled.
- ☐ When the user subsequently links to Care360 Labs & Meds, the Care360 Labs & Meds login process is completed automatically based on their stored user credentials.
 - ☐ When a user links to Care360 Labs & Meds via an SSO connection, they can then access *any* Care360 Labs & Meds functions that are enabled by their user credentials.

Accessing Care360 Labs & Meds via an Established SSO Link

The following steps outline the procedure—and associated systems—involved in accessing Care360 Labs & Meds from a partner application, after a user's SSO link has been initialized (outlined in [“Initializing a User's SSO Connection”](#) on page 9).

- ☐ A user logs in to the partner application.
- ☐ The partner application user initiates a link to Care360 Labs & Meds. A link to Care360 Labs & Meds can be established in one of the following ways:
 - ☐ The link can open Care360 Labs & Meds directly to a specific function. For example, the *Home* page, the *Lab Orders* page, the *New Results* page, the *Patient Summary* page, or the *Action Items Inbox*. For *Lab Orders*, the current patient context may be maintained if an appropriate match can be determined, based on the supplied patient identifier (PID) or inclusion of the *care360Transaction* field ID.
 - ☐ The link can open Care360 Labs & Meds with no specific function specified. In this case, the user's default page (as configured in the Care360 Labs & Meds) appears.
- ☐ Care360 Labs & Meds opens either in a separate browser window, or framed within the context of the partner application (if the required 1024x768 resolution can be maintained).
- ☐ The user can then access *any* Care360 Labs & Meds functions that are enabled by their user credentials.

Accessing Care360 Labs & Meds Directly

The following steps outline the procedure—and associated systems—involved in accessing Care360 Labs & Meds directly, outside the context of a linked application.

- ☐ MedPlus issues a user a separate *Password*, associated with either their existing Care360 Labs & Meds *User ID*, or a separate *User ID*.
- ☐ The user logs in to Care360 Labs & Meds directly with their assigned *User ID* and *Password*.

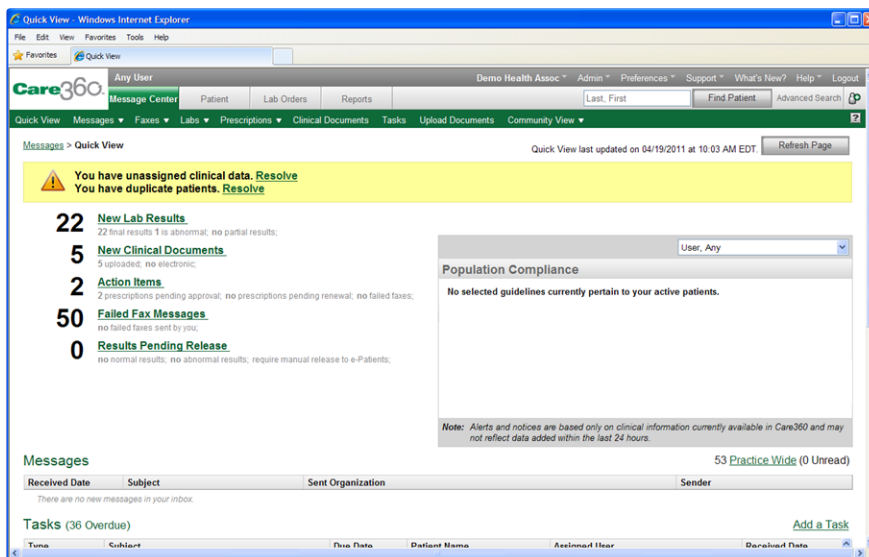
Note: The Care360 Labs & Meds password is **not** the same password used to initialize or maintain the SSO link from the partner application. The *User ID* may or may not be the same as used for SSO linking.

Allowing a user direct access to Care360 Labs & Meds is optional. When a user accesses directly, there is no connection established to a partner application, and Care360 Labs & Meds may appear in its default format (that is, with no custom UI branding).

- ☐ The user can access *any* Care360 Labs & Meds functions that are enabled by their user credentials.

Customizing the Care360 Labs & Meds User Interface

When Care360 Labs & Meds is linked to a partner application, it is possible to customize certain elements of the Care360 Labs & Meds user interface (UI) to provide a more seamless experience for users as they move between the two applications.



The elements of the Care360 Labs & Meds that can be customized include the following:

- **Logos and Images.** The Care360 Labs & Meds logo (in the upper-left corner), as well as the Quest Diagnostics logo (in the lower-left corner) can each be replaced with a similarly-sized logo or image to reflect the branding of the partner organization or application. For details, see [“Logo and Image Specifications”](#) on page 12.
- **Color Palette.** The overall color scheme of the Care360 Labs & Meds user interface, including the navigational buttons, can be modified to reflect the partner organization or application. For details, see [“Color Palette Specifications”](#) on page 12.
- **Copyright and Trademark Text.** The Quest Diagnostics copyright and trademark text (along the bottom of each page) can be changed to reflect the applicable copyright or trademark text of the partner organization. For details, see [“Copyright and Trademark Text Specifications”](#) on page 12.
- **Link Names and Destinations.** Several of the hypertext links (along the bottom of each page) can be changed to display custom text, as well as to link to Web-based resources associated with the partner organization. For example, the *Contact Us* link could be changed to *Contact University Hospital*, with the link providing direct access to the hospital’s customer support Web site. For details, see [“Link Name and Destination Specifications”](#) on page 12.
- **Custom Uniform Resource Locator (URL).** The Web address (or *URL*) that is used to access Care360 Labs & Meds—and appears in the user’s Web browser while using the Care360 Labs & Meds—can be changed to include a domain name that reflects the partner organization or application. For details, see [“Custom URL Specifications”](#) on page 13.
- **User Manual and Help.** The *Care360 Labs & Meds User Manual* and online help can be replaced with a “generic” version (with Quest Diagnostics references and branding removed). For details, see [“User Manual and Help Specifications”](#) on page 13.

Custom UI Specifications

The following sections provide detailed specifications of the Care360 Labs & Meds UI elements that can be customized for use with a partner application.

Logo and Image Specifications

The following Care360 Labs & Meds logos and/or images can be replaced or removed:

Logo/Image	Location	File Type	Dimensions (Pixels)
Care360 Labs & Meds logo	Upper-left corner of application	.GIF	197 W x 70 H
Quest Diagnostics logo	Left-hand navigation pane of application	.GIF	125 W x 41 H
Care360 Labs & Meds logo	Upper-left corner of login page	.GIF	302 W x 99 H

Color Palette Specifications

The overall color scheme of the Care360 Labs & Meds user interface, including navigational buttons, can be customized to reflect the partner organization or application. Elements for which color can be defined include the following:

- Text color
- Background colors (including lighter, middle, and darker)
- Button text color
- Button background color

Colors for each option are specified using one of the following three color formats: RGB (composed of three number or percentage values), hexadecimal (a 3- or 6-digit hex value), or color name (standard colors defined by the World Wide Web Consortium (W3C)).

Copyright and Trademark Text Specifications

The Quest Diagnostics copyright and trademark text that appears along the bottom of each Care360 Labs & Meds page can be changed to reflect the applicable copyright, trademark, or disclaimer text (up to 500 characters) of the partner organization. The text can also contain HTML tags, which enables additional formatting or linking options to be included.

Link Name and Destination Specifications

The following hypertext links—which appear along the bottom of each page—can be customized to display a different link name (up to 30 characters each) and/or to link to a different destination, or they can be removed altogether:

Care360 Labs & Meds Link	Location	Customization Options
About Care360	Login page	Can be renamed and/or linked to a different destination page, or removed.

Care360 Labs & Meds Link	Location	Customization Options
Forgot Password?	Login page	Can be renamed or removed.
Contact Us	Login page, Each portal page	Can be renamed and/or linked to a different destination page, or removed.
Feedback	Each portal page	Can change e-mail recipient.
Quest Diagnostics Resource	Each portal page	Can be renamed and/or linked to a different destination page, or removed.
Logo in Left-Hand Navigation Pane	Each portal page	Can be replaced and/or linked to a different destination page.
Quick View	Each portal page	<i>Cannot</i> be changed or removed (links to Care360 Labs & Meds internal destination).

Custom URL Specifications

In order for a partner application to link to a custom “branded” version of Care360 Labs & Meds, the partner application must connect via a custom URL that identifies the branded version of Care360 Labs & Meds to display. The custom URL can be used to programmatically link the applications, or to enable an end user to access the branded version of Care360 Labs & Meds directly (outside the context of the partner application).

The format of the custom URL is as follows:

`https://<portal server name>:<port>/care360.login?branduid=<brand uid>`

where:

- `<portal server name>:<port>` are the server name and (optional) port number associated with the Care360 Labs & Meds installation to which the partner application is connecting – and –
- `<brand uid>` is a random number that is generated by MedPlus to identify the branded Care360 Labs & Meds instance to display.

For example:

`https://portal.care360.com/care360/care360.login?branduid=12345`

Partners that allow their users to access Care360 Labs & Meds directly (outside the context of the partner application) can either provide their users with the MedPlus-supplied URL, or they can create a custom URL by aliasing a more appropriate domain name.

User Manual and Help Specifications

The *Care360 Labs & Meds User Manual* and online help can be replaced with a generic user manual and help, which contain no references to Quest Diagnostics, and no Care360 Labs & Meds or Quest Diagnostics branding, such as logos or images.

About the Care360 SSO and Web Services Site

The Care360 Labs & Meds SSO and Web Services site is a companion to the *Care360 Linking and Single Sign-On (SSO) Programmer Reference* that provides additional support to vendors who are developing partner applications to interact with Care360 Labs & Meds. The Web site provides sample code, documentation, and other tools and resources that can be used to understand how to develop a partner application to interact with Care360 Labs & Meds via SSO and Web Services.

This section provides an overview of each of the tools provided on the Care360 Labs & Meds SSO and Web Services site, as well information about accessing the site online.

Note: For information about linking a partner application to Care360 Labs & Meds, see [Chapter 1](#), “Linking to Care360 Labs & Meds” beginning on page 1.

Accessing the Care360 SSO and Web Services Site

The *Example SSO - Care360 Stage* application—in addition to a number of other resources for partners who are developing applications to interact with Care360 Labs & Meds—is available for download from the Care360 Labs & Meds SSO and Web Services site. The Example SSO application, as well as the complete source code, are provided as individual .zip files, and require a valid *username* and *password* (provided by Quest Diagnostics) for access.

In addition to providing access to the Example SSO application, the Care360 SSO and Web Services site provides additional Care360 Labs & Meds-related information and resources, such as the following:

- **Support.** Contact information for various members of the Care360 Labs & Meds support team, URLs for the WSDL documents for the Staging and Production environments, and a PDF version of this Programmer Reference.
- **Resources.** Downloads of the latest *Example SSO - Care360 Stage* sample application and source code.

Download the Sample Application and Source Code

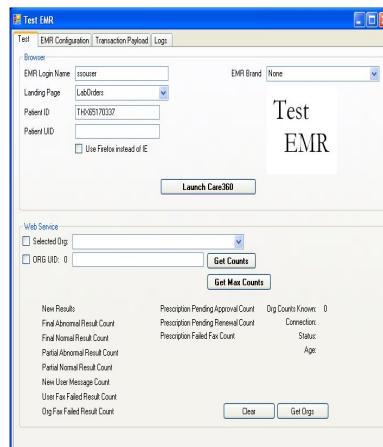
1. Access the Care360 SSO and Web Services site at the following URL:
`http://custcenter.medplus.com/tech-support/portalcenter/`
2. If prompted, type your *username* and *password*, and then press *Enter*.
3. From the *Resources* area, do the following:
 - To download the sample application, click the *Example-SSO-Care360-stage* link. When prompted, click *Save*, and then locate the desired download directory on your hard disk.
 - To download the sample source code, click the *Example-SSO-Care360-stage-src* link. When prompted, click *Save*, and then locate the desired download directory on your hard disk.
4. Unzip the contents of the sample application and source code files.
For an overview of the file contents, see “[About the Sample Application](#)” on page 15.

About the Sample Application

The Care360 Labs & Meds SSO and Web Services site provides the resources described in this section for partner application developers. In addition to the information provided here, additional details of each of these resources are provided in a Readme file included with each sample application.

Example SSO Application

The Care360 Labs & Meds SSO and Web Services site provides the *Example SSO - Care360 Stage* executable client application (shown below), for linking to Care360 Labs & Meds via SSO in the Care360 Labs & Meds Staging environment. Once connected, the Example SSO - Care360 Stage application demonstrates the use of the User Summary Web services for retrieving user data, and the Branding options for linking to Care360 Labs & Meds with specific product branding displayed.



This sample application can be used to help understand SSO workflow, as well as to verify responses to User Summary requests. It can also be used to help troubleshoot issues; for example, to determine whether a problem exists within a vendor application (or message format), as opposed to within Care360 Labs & Meds itself.

Sample Source Code

The Care360 Labs & Meds SSO and Web Services site also provides code samples and supporting project files (as applicable) to demonstrate the working Example SSO - Care360 Stage application. (For more information about the sample code, see [“About the Sample Code”](#) on page 15.)

About the Sample Code

The Care360 Labs & Meds SSO and Web Services site provides sample source code to illustrate recommended coding practices for interacting with the various SSO and Web services provided by Care360 Labs & Meds. Though the samples are specific to a particular SSO function or Web service, they help illustrate general programming practices that can be used with any of the SSO functions or Web services provided by Care360 Labs & Meds.

A Readme file is included with the sample application, describing the application and how it is to be used. In addition, detailed comments are provided throughout the sample code to illustrate the implementation of key functions.

Quest Diagnostics Disclaimer

All sample code referenced in this Programmer Reference and the Care360 Labs & Meds SSO and Web Services site is provided for example purposes only, and it may need to be modified to work in your environment. It is provided “as is,” without warranty of any kind, or support, from Quest Diagnostics.

Third-Party Disclaimer

Quest Diagnostics has a software license to use a library written by ComponentSpace. It is used by the sample application to create assertions and other SAML features in C#. In order to use the sample application, a third-party application developer must download and install the ComponentSpace library for SAML (version 1.1).

For more information, refer to the following ComponentSpace Web site:

<http://www.componentspace.com/Products/SAMLv11.aspx>

About Lab Order Echo

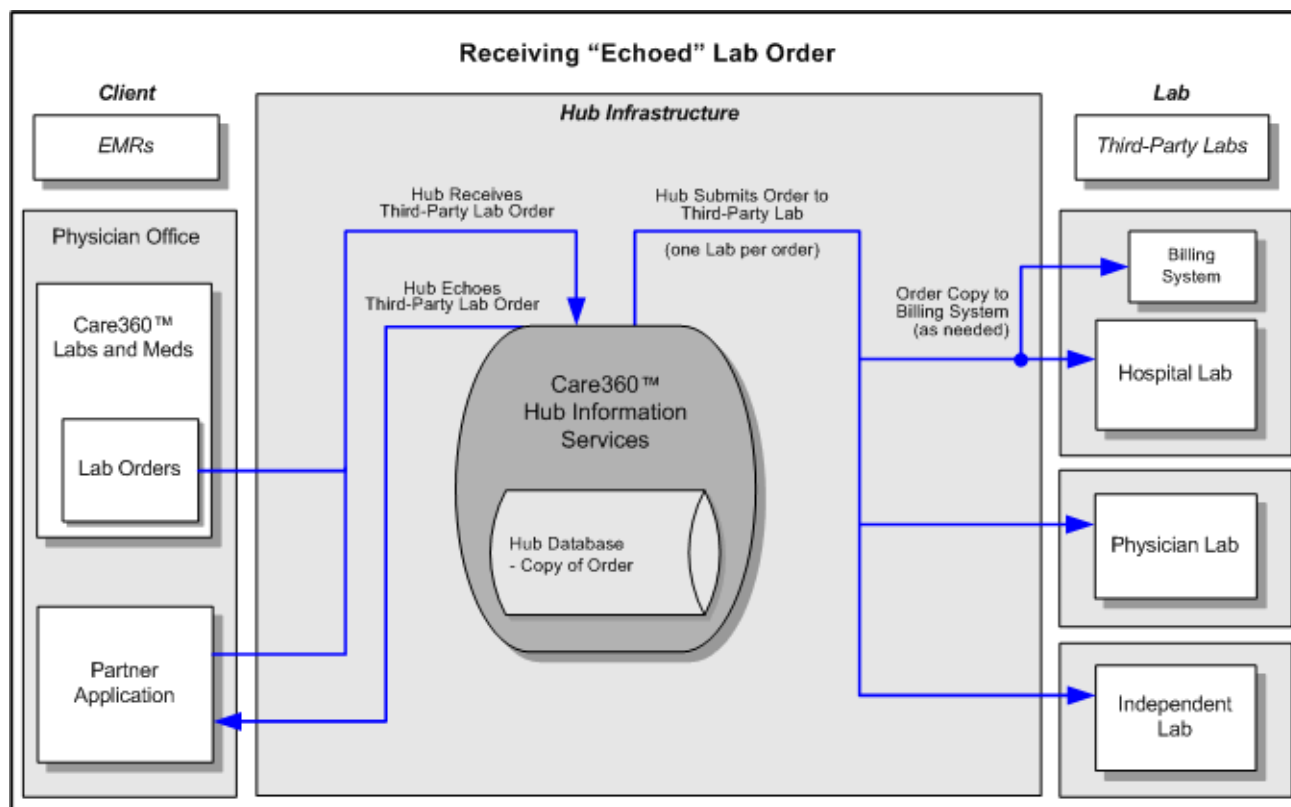
When the user of a partner application links to Care360 Labs & Meds to place a lab order, that order can be “echoed” back to the partner application. Order echo involves Care360 Labs & Meds sending a copy of the order back to the partner application, so that it can store a record of the order for the associated patient. Benefits of order echo include the following:

- Enables the partner application to store a copy of each order (placed through the *Lab Orders* function of Care360 Labs & Meds) to the patient’s chart.
- Improves patient records management and office workflow.
- Eliminates the need for redundant data entry.
- Stores order data in standard HL7 format, so that it can be easily reused as needed.

Order messages that are echoed back to the partner application are formatted according to the specifications detailed in the *Order 2.3 HL7 Specification* (spec_hl7_orders_23.pdf) document.

Process Walkthrough: Lab Order Echo

The diagram below illustrates (at a high level) the flow of order data between Care360 Labs & Meds and a linked partner application. Following the diagram is a step-by-step walkthrough of the order echo process illustrated in the diagram.



The following steps outline the process and associated systems involved in placing an order and having the order echoed back to the partner application.

- ☐ A user logs in to the partner application.
- ☐ The partner application user initiates a link to the *Lab Orders* function of Care360 Labs & Meds.
 - ☐ When linking to *Lab Orders*, the current patient context may be maintained if an appropriate match can be determined, based on the supplied PID.
- ☐ The user creates and submits a lab order for a Quest Diagnostics lab or any lab that is in the Care360 system, or the user creates and prints / delivers a lab order for a generic lab (a lab that is not in the Care360 system).
- ☐ The Hub records the order transaction, and stores a copy of the discrete content of the order.
- ☐ The Hub “echoes” (returns) a copy of the order back to the partner application.

About Rx Order Echo

When the user of a partner application links to Care360 Labs & Meds to place a prescription order, that order can be “echoed” back to the partner application. Rx Order echo involves Care360 Labs & Meds sending a copy of the prescription order back to the partner application so that it can store a record of the prescription order for the associated patient. Benefits of Rx prescription order echo include the following:

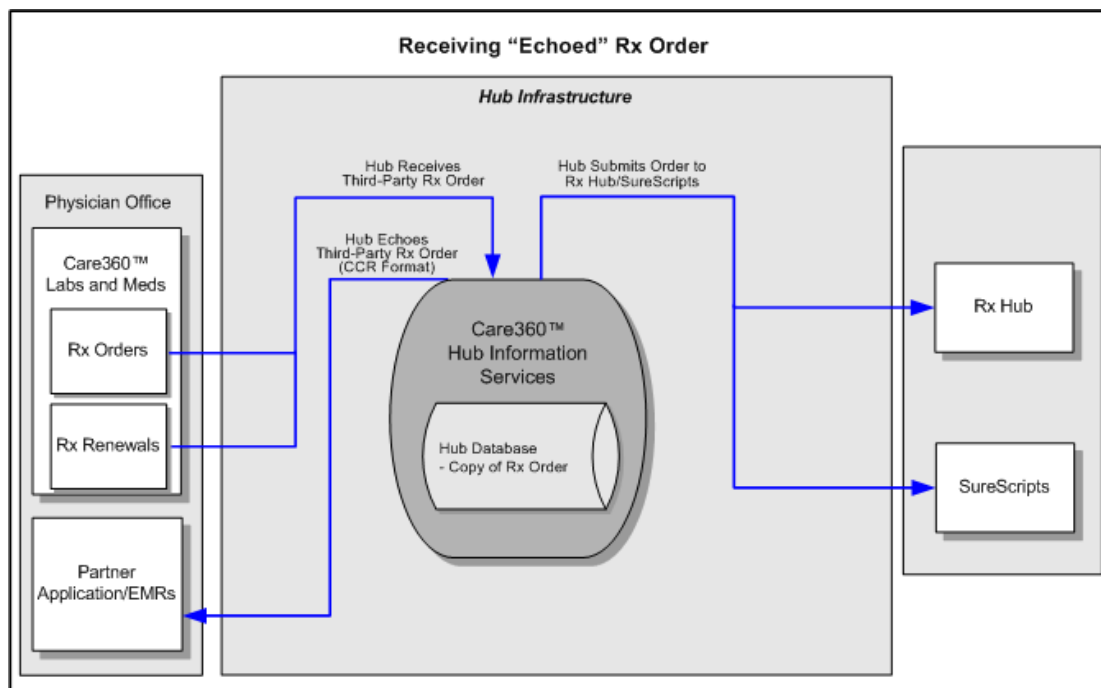
- Enables the partner application to store a copy of each prescription order (placed through the *Prescription Orders* function of Care360 Labs & Meds) to the patient’s chart.
- Improves patient records management and office workflow.
- Eliminates the need for redundant data entry.

Note: Only approved prescriptions can be echoed. This includes both new prescriptions and renewals.

Rx Order messages that are echoed back to the partner application are formatted in Continuity of Care Record (CCR) format. For more information, see [Chapter 6, “CCR Message Specification”](#) beginning on page 187.

Process Walkthrough: Rx Order Echo

The diagram below illustrates (at a high level) the flow of prescription order data between Care360 Labs & Meds and a linked partner application. Following the diagram is a step-by-step walkthrough of the Rx order echo process illustrated in the diagram.



The following steps outline the process and associated systems involved in placing a prescription order and having the prescription order echoed back to the partner application.

- ☐ A user logs in to the partner application.
- ☐ The partner application user initiates a link to the *Prescription Orders* function of Care360 Labs & Meds.
 - ☐ When linking to *Prescription Orders*, the current patient context may be maintained if an appropriate match can be determined, based on the supplied PID.
- ☐ The user creates and submits a prescription order, or approves a renewal request.
- ☐ Care360 Labs & Meds sends the prescription echo to the Hub at the time the prescription is submitted.
- ☐ The Hub records the prescription order transaction, and stores a copy of the discrete content of the prescription order.
- ☐ The Hub “echoes” (returns) a copy of the prescription order back to the partner application.

Note: Clients must be able to utilize patient fuzzy matching for prescription orders without a Medical Record Number (MRN).



Chapter 2

Care360 Labs & Meds SSO Specification

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In This Chapter:

- [About the Care360 Labs & Meds SSO Specification](#) 22
- [Establishing Organizational Trust](#) 23
- [Implementing SAML](#) 24
- [Usage Scenario 1: Care360 Labs & Meds SSO for Interactive Users](#) 27
- [Usage Scenario 2: Care360 Labs & Meds SSO for Web Services](#) 29

About the Care360 Labs & Meds SSO Specification

Care360 Labs & Meds SSO utilizes the [Oasis SAML 1.1](#) specification for exchanging credentials securely between itself and a partner application. The implementation of this trust model is based upon a combination of the following items:

- A *digital certificate* that identifies the external partner.
- An *organizational trust record* that is recorded with Care360 Labs & Meds.

The organizational trust record follows an assessment process, verifying that the partner site can securely and accurately assert the identities of its users on behalf of Care360 Labs & Meds. Since password management is not required to access Care360 Labs & Meds, the password management at the partner application endpoint must be comparable.

Once the organizational trust has been established, the partner application can submit authentication requests to Care360 Labs & Meds in the form of a *SAML assertion*. SAML is an XML-based messaging standard that provides for the specification of a partner site identifier, user name identifier, digital signature of the asserted information, and so on. This SAML message is typically posted directly to the Care360 Labs & Meds secure Web server, using the SAML Browser/POST profile.

Some of the various third-party SAML toolsets available include the following:

- ComponentSpace SAML.NET, for the Windows .NET platform
- OpenSAML, for Java

Quest Diagnostics can provide sample implementations using the above toolsets, which can be used as a starting point and for performing system checks for your configuration.

Establishing Organizational Trust

This section provides a list of business processes that you can follow to facilitate the collection of identifiers and credentials for your site, as well as to assess the fitness and requirements of your application infrastructure for the use of SAML in place of Care360 Labs & Meds passwords.

The high-level processes for establishing organization trust include the following:

- ❑ **Performing a security assessment.** Quest Diagnostics will work with you to review application security, network security, password aging practices, password complexity rules, and user account management practices to determine whether or not your system operates at a minimum level of discipline across these areas.
- ❑ **Obtaining a digital certificate.** This is an RSA-encrypted certificate that your application will use for signing SAML assertions, before passing them to Care360 Labs & Meds. You must generate a private key and certificate request to be authorized by a third-party certificate authority (for example, VeriSign), and then forward the public key to Quest Diagnostics.
- ❑ **Providing SAML credentials.** Your SAML implementation must employ a few key pieces of information that must be shared with Quest Diagnostics (your SAML partner), including:
 - **Source ID.** A base64-encoded identifier that uniquely identifies your site. This is the “primary key” component of the organizational trust record Quest Diagnostics creates for you in our system.
 - **Issuer.** A unique string (typically in URL format) that identifies your Internet host point. This string is stored in the organizational trust record that Quest Diagnostics maintains for you, and is also included in all SAML assertions transmitted by your site to Care360 Labs & Meds.
 - **SAML Artifact Redemption Servlet.** Applies only to partners using the SAML Browser/Artifact profile. If your site uses the SAML Browser/Artifact profile method of authentication, this is a URL on your system to which Care360 Labs & Meds SSO can call back to redeem an SAML artifact. This must be a secure (SSL-accessible) endpoint on your system, and may require special firewall configuration, which would be examined as part of the security assessment.

Note: If you are using the recommended SAML Browser/POST profile, this component is not necessary.

Implementing SAML

Your SAML implementation must employ the digital certificate and SAML identifiers shared and configured as outlined in the previous sections of this chapter. This section outlines the general steps required to authenticate successfully to Care360 Labs & Meds via SAML. Sample implementations are provided later in this guide to illustrate how these steps are facilitated on various platforms, and in various usage scenarios (for example, a Web service vs. a user's browser). These instructions are based upon the SAML Browser/POST profile model.

The following general actions must occur in order to authenticate a partner application user to Care360 Labs & Meds using SAML 1.1:

- ☐ **The user is authenticated in the partner application.** Before accessing a link to a Care360 Labs & Meds feature using SSO, the user must authenticate to the partner application environment. The means used to authenticate must be that which was previously approved during the security assessment.
- ☐ **The user selects a linked Care360 Labs & Meds feature.** The user takes some action (for example, clicking a button or submitting a form) that correlates to a feature hosted by Care360 Labs & Meds. This action triggers the SAML authentication process, and directs Care360 Labs & Meds to serve the requested content once authentication has been achieved. The requested content contains a target URI (*targetUri*), plus possible application context parameters.
- ☐ **The SAML assertion is created.** Using a SAML library or application installed within the partner application environment, a SAML assertion is created. This assertion contains the user identity (*NameIdentifier*), the partner's *Issuer* value, and a precise and current timestamp based on Greenwich Mean Time (GMT).
- ☐ **The SAML assertion is signed.** The partner site's private key is used to digitally sign the SAML assertion. An encoded copy of the resulting signature and an encoded copy of the partner site's public key are coupled with the SAML assertion to form a SAML response. (This is referred to as a SAML *response*, as opposed to a *request*. Refer to the Oasis Web site for a detailed explanation of each.)
- ☐ **The SAML response (assertion + signature) is transmitted to Care360 Labs & Meds via HTTP+SSL.** The SAML response is POSTed to the following URL:

`https://portal.Care360.com/Care360/Care360SSOSecurityCheck`

The following parameters are passed within the form, using the standard application/x-www-form-urlencoded format.

Parameter	Description	Example Value	Req'd?	Default
<i>Process Control Parameters</i>				
care360Transaction	A Base64-encoded Care360 Transaction Document containing an A31 XML message.	[Base64-encoded <c360:Care360Transaction>...</c360:Care360Transaction> payload]	N	
SAMLResponse	A Base64-encoded copy of the SAML response XML message.	[Base64-encoded copy of the <saml:Response>...</saml:Response> payload]	Y	

Parameter	Description	Example Value	Req'd?	Default
targetUri	A Care360 Labs & Meds page identifier, indicating the preferred “landing page.”	One of the following: • NewResults • LabOrders • Home • BlankPage • PatientSummary • RxPad • ActionItems • ActionItemFailedFaxes • ActionItemsPendingRenewals • ActionItemsPendingApprovals Notes: • Home specifies the user’s default page. • BlankPage is valid only for Web service calls.	N	Home
branduid	A string value indicating the preferred UI brand.	2c9252d710e58d150110e58d67190001	N	Care360 Labs & Meds default brand
TARGET	A SAML 1.1 parameter that identifies a target page. This parameter is not used by Care360 Labs & Meds SSO, even though it is in the standard. If your SAML implementation or library requires this name/value pair, specify it with any arbitrary value (the value is ignored).	[any value]	N	
<i>Application Context Parameters</i>				
ctx.patientID	A Care360 Labs & Meds patient identifier (PID). Note: Valid only for the LabOrders, PatientSummary, and RxPad landing pages.	23456	N	

- ❑ **The SAML response is authenticated by Care360 Labs & Meds.** Care360 Labs & Meds SSO verifies the SAML response, and authenticates the asserted user based upon the following:
 - **Was the SAML response signed by a trusted partner?** The public key passed within the SAML response is sought in the Care360 Labs & Meds SSO keystore. If found, this step succeeds. This control prevents rogue third parties from forging the identities of Care360 Labs & Meds customers, and also thwarts “man in the middle” attacks that attempt to modify the SAML message in transit.
 - **Was the SAML response created in a timely manner?** Care360 Labs & Meds SSO enforces a strict time tolerance window (allowing only for a 180-second discrepancy between your clock and ours), outside of which a SAML response is not accepted. This control prevents the future posting of any intercepted and captured SAML response by a malicious third party, should a security breach occur, and helps to ensure that timely information transmitted.

Note: You may specify a *Conditions* node within your SAML assertion to narrow the time tolerance window, if you prefer. The time tolerance window always reflects the narrower of the two settings.

 - **Is the partner’s Issuer recognized by Care360 Labs & Meds?** Having verified the signature of the SAML response, Care360 Labs & Meds is assured that the *Issuer* value transmitted within the SAML assertion reflects your partner profile. When Care360 Labs & Meds SSO locates this value in its SAML partner configuration data, your site’s identity is verified as a viable SAML asserter.
 - **Is the asserted partner application user recognized by Care360 Labs & Meds?** The *NameIdentifier* value within the SAML assertion provides unique identification of the user, as recognized by the partner application. Care360 Labs & Meds SSO looks up this user identifier in its user mapping table to determine the correlating Care360 Labs & Meds user identity. If found, a Care360 Labs & Meds login session is established for the user. If not found, Care360 Labs & Meds SSO presumes the user is accessing Care360 Labs & Meds via SSO for the first time, and directs the user to a one-time Care360 Labs & Meds login page (for an overview of this process, see “[Initializing a User’s SSO Connection](#)” on page 9).
 - **Does the asserted partner application user correlate to the partner providing the assertion?** When a user’s identity from the partner application is correlated to his/her Care360 Labs & Meds user identity, the partner application’s Issuer is also recorded for that user. On subsequent requests to Care360 Labs & Meds, the SAML *Issuer* is compared to that stored in the user’s mapping record. If they match, Care360 Labs & Meds SSO is assured that the user does, in fact, belong to the partner site that is asserting the user’s identity.
- ❑ **HTTP Response is received.** The page requested via the *targetUri* HTTP POST parameter is returned by Care360 Labs & Meds to the partner application user/application within the HTTP Response. The returned page reflects the user’s new Care360 Labs & Meds login session.

Usage Scenario 1: Care360 Labs & Meds SSO for Interactive Users

In this scenario, SSO is used to establish a Care360 Labs & Meds session for an end user within a Web browser window (specifically, Internet Explorer) on the user's computer. The SAML 1.1 Browser/POST implementation, as outlined in [“Implementing SAML”](#) on page 24, is manifested when the partner application launches the Web browser. Doing so loads an HTML document containing a form that targets the Care360 Labs & Meds SSO security check servlet with the appropriate parameters as hidden input nodes.

Example: Browser/POST

Note: The SAMLResponse value in the following example is truncated for the sake of brevity.

```
<HTML>
<BODY Onload="document.forms[0].submit()">
<FORM METHOD="POST"
  ACTION="https://portal.Care360.com/Care360/Care360SSOSecurityCheck">
  <input type="hidden" name="targetUri" value="NewResults"></input>
  <input type="hidden" name="branduid"
    value="2c9252d710e58d150110e58d67190001"></input>
  <INPUT TYPE="HIDDEN" NAME="SAMLResponse" VALUE="PHNhbWxwOlJ..."></INPUT>
</FORM>
</BODY>
</HTML>
```

In the example above, the form is posted to Care360SSOSecurityCheck from the Web browser, such that the specified landing page is displayed to the user, and the session cookie is established within the browser process for use on subsequent requests. After the user has accessed Care360 Labs & Meds from the partner application link, the user may remain within Care360 Labs & Meds and perform any other tasks he/she is authorized to perform, based upon the Care360 Labs & Meds user access rights previously configured.

About Session Timeouts and Terminations

A user who connects to Care360 Labs & Meds via an SSO link is subject to the same timeout conditions as they would if they were to access Care360 Labs & Meds directly. When a directly-accessed session times out, Care360 Labs & Meds displays the login page. For an SSO-authenticated session, Care360 Labs & Meds displays a page indicating that the user has timed out, but it does not allow the user to re-enter their login credentials. (A similar message appears if the user clicks *Log Out* within Care360 Labs & Meds after authenticating via SSO.)

The message presented to the user indicates that in order to begin a new session, the user must return to the partner application and click a Care360 Labs & Meds link. Doing so results in a new SSO authentication request to Care360 Labs & Meds.

It is quite possible that users who interact with Care360 Labs & Meds only via links from the partner application will not be aware that a session timeout has occurred. Each time a link from the partner application to Care360SSOSecurityCheck is invoked, a new SAML assertion is passed using an HTML FORM of the type discussed above.

Care360 Labs & Meds evaluates the current user session in conjunction with the SAML assertion provided, and performs authentication to establish a new session under the following conditions (evaluated in the order shown):

- ☐ The partner application link has launched a *new* browser window.
- ☐ The partner application link attempts to update the *existing* browser window, for which the Care360 Labs & Meds session has timed out.
- ☐ A different user has authenticated to the running partner application since the Care360 Labs & Meds browser window was launched. This requires authentication to Care360 Labs & Meds as the “new” partner application user.

About SSO User Initialization

Before successful SSO authentication to Care360 Labs & Meds can occur, users of trusted partner applications must be mapped to Care360 Labs & Meds. This process includes verifying that the user knows his/her Care360 Labs & Meds credentials (*User ID* and *Password*) the first time the user accesses Care360 Labs & Meds via a link from the partner application.

The first time the user initiates SSO-based access to Care360 Labs & Meds, the absence of a user mapping on file for the user elicits a login page, displaying a message indicating why the credentials are being requested. Both new and existing Care360 Labs & Meds users will see this page on their first SSO-based access attempt. Both temporary passwords (issued by Customer Support) and permanent passwords (set by the user via the *Change Password* function) are accepted on this page.

Upon successful authentication of a user’s Care360 Labs & Meds *User ID* and *Password*, a mapping record is stored within Care360 Labs & Meds that relates the Care360 Labs & Meds user identity to the partner application user identity passed within the SAML assertion.

At the same time, the user’s Care360 Labs & Meds password is obfuscated, so the user will *only* be able to access Care360 Labs & Meds via SSO from that point forward. If the user requires both SSO-based and password-based authentication, Customer Support may be contacted to request a password reset. Existing Care360 Labs & Meds practices are employed for password resets; that is, the user must change the password upon the first password-based login following a password reset.

Usage Scenario 2: Care360 Labs & Meds SSO for Web Services

A partner application can leverage SSO in the process of invoking Care360 Labs & Meds Web services on behalf of a previously-mapped user (see “[About SSO User Initialization](#)” on page 28). Establishing a session using SSO enables the partner application to establish a user-specific context to Care360 Labs & Meds without having to know (or store) the user’s Care360 Labs & Meds password. The only Web service available for integration is the User Summary service, which is referenced in the following sections.

From the Care360 Labs & Meds server perspective, the SSO “handshake” for Web service usage is identical to the handshake for browser usage. The primary difference from the partner application perspective is that instead of sending an HTML form to a Web browser, the application opens a direct HTTPS connection to the Care360 Labs & Meds server. It can then invoke a POST request to send the authentication information, and receive a landing page response along with the Care360 Labs & Meds session cookie.

Example 1: Traffic of HTTP+SSL Request to Care360SSOSecurityCheck

```
--- REQUEST ---
POST /care360/Care360SSOSecurityCheck HTTP/1.0
Host: Care360.dev.medplus.com
Content-Length: 6810
Content-Type: application/x-www-form-urlencoded
User-Agent: SOATest
X-Care360-SessionForWebService: true

SAMLResponse=PFJlc3BvbmlHhtbG5zPSJ1cm..

--- RESPONSE ---
HTTP/1.1 200 OK
Date: Mon, 19 Mar 2010 15:28:42 GMT
Pragma: no-cache
Content-Length: 350:
Content-Type: text/html
Expires: Thu, 01 Jan 2011 00:00:00 GMT
Last-Modified: Mon, 20 Nov 2009 16:23:24 GMT
Set-Cookie: JSESSIONID=F2sq7JLqQs19hkGfQf1v7qh1w2LrLgJT5NBz4HLYlYZybgPJr
2y4!98796407;path=/
Set-Cookie: securityCheckUri=Care360SSOSecurityCheck
Set-Cookie: IsSSOClient=true
Set-Cookie: sso_lastKnownSessionId=F2sq7JLqQs19hkGfQf1v7qh1w2LrLgJT5NBz4
HLYlYZybgPJr2y4!987964007!1174318122760; path=/
Accept-Ranges: bytes
Cache-Control: no-cache
Connection: Close

<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html;
      charset=UTF-8"></meta>
    <title>Care360</title>
  </head>
  <body bgcolor="#FFFFFF"></body>
</html>
```

Following are a few details from the traffic example on the previous page:

- A User-Agent header must be specified. Care360 Labs & Meds authentication will fail if this header is not provided. The header value is not important, so you may specify anything you want, as long as it is unique and does not match that of any popular Web browser.
- A X-Care360-IsForWebService header must be specified, in order to prevent concurrent-session termination issues, as the user will likely be using Care360 Labs & Meds within a Web browser as well.
- The targetUri parameter is not needed. However, if provided, it will be ignored. A 'blank' HTML page is returned regardless, upon successful authentication. Only the Care360 Labs & Meds session cookies ('Set-Cookie' response headers) are important within an HTTP response indicating success.

The session cookies are passed back to the Care360 Labs & Meds server on a subsequent Web service request.

Example 2: Traffic of HTTP+SSL Request to User Summary Service Following Authentication

```
--- REQUEST ---
POST /care360-services/UserSummaryWebService HTTP/1.0
Host: localhost:7001
Content-Type: text/xml; charset=UTF-8
Content-Length: 400
Connection: Keep-Alive
SOAPAction: ""
Cookie: JSESSIONID=F2sq7JLqQs19hkGfQf1v7qh1w2LrLgJT5NBz4HLY1YZybgPJr2
      y4!987964007; securityCheckUri=Care360SSOSecurityCheck;
      IsSSOClient=true;sso_lastKnownSessionId=F2sq7JLqQs19hkGfQf1v7qh1w2
      LrLgJT5NBz4HLY1YZybgPJr2y4!987964007!1174318122760

<SOAP-ENV:Envelope>
  <SOAP-ENV:Body>
    <ns1:getOrgs SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/
      soap/encoding/"></ns1:getOrgs>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

--- RESPONSE ---
HTTP/1.1 200 OK
Date: Mon, 19 Mar 2010 16:24:18 GMT
Content-Length: 938
Content-Type: text/xml; charset=UTF-8
Connection: Keep-Alive

<?xml version="1.0" encoding="UTF-8"?>
<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <env:Body env:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/">
    <m:getOrgsResponse xmlns:m="http://www.Care360.com/services">
      <result xmlns:n1="java:com.medplus.Care360.ws.org.model"
        xsi:type="n1:WSOrgData">
        <maxOrgs xsi:type="xsd:long">6</maxOrgs>
        <orgList soapenc:arrayType="n1:WSOrg[5]">
          <WSOrg xsi:type="n1:WSOrg">
```

```

        <orgName xsi:type="xsd:string">AUTO LNR US04</orgName>
        <orgUID xsi:type="xsd:string">
            2c928dc01195313601119a1d0bb700f5</orgUID>
    </WSOrg>
    <WSOrg xsi:type="n1:WSOrg">
        <orgName xsi:type="xsd:string">AUTO LNR US05</orgName>
        <orgUID xsi:type="xsd:string">
            2c928dc01195313601119a206c3700f6</orgUID>
    </WSOrg>
    <WSOrg xsi:type="n1:WSOrg">
        <orgName xsi:type="xsd:string">AUTO LNR US06</orgName>
        <orgUID xsi:type="xsd:string">
            2c928dc01195313601119a22079700f7</orgUID>
    </WSOrg>
    <WSOrg xsi:type="n1:WSOrg">
        <orgName xsi:type="xsd:string">AUTO LNR US07</orgName>
        <orgUID xsi:type="xsd:string">
            2c928dc01195313601119a24307c00f8</orgUID>
    </WSOrg>
    <WSOrg xsi:type="n1:WSOrg">
        <orgName xsi:type="xsd:string">AUTO LNR US08</orgName>
        <orgUID xsi:type="xsd:string">
            2c928dc01195313601119a25a3f200f9</orgUID>
    </WSOrg>
</orgList>
<timestamp xsi:type="xsd:dateTime">
    2010-04-17T12:59:59.420Z</timestamp>
</result>
</m:getOrgsResponse>
</env:Body>
</env:Envelope>

```

For more information about the User Summary services, see [Chapter 3, “User Summary Services API Reference”](#) beginning on page 33.

About Session Timeouts and Terminations

Session timeout conditions do not need to be actively considered by the partner application integrator when establishing SSO for Web services, as long as an SSO authentication action is made on a new session each time a Web service is called. (The example application code, above, demonstrates this model.) However, following is some background as to how Care360 Labs & Meds Web service usage is impacted:

- Sessions established on behalf of Care360 Labs & Meds user for Web service usage (as indicated by the X-Care360-IsForWebService header) are managed separately from sessions established for Web browser usage. This means that user browser sessions to Care360 Labs & Meds will not be terminated due to a multiple-login condition, if the partner application invokes a Web service call (in the background) on the user’s behalf.
- Web service sessions are limited to 60 seconds (by default) in order to avoid the proliferation of abandoned non-interactive sessions on the Care360 Labs & Meds server.
- Sessions created for Web service usage neither support nor require a “log out” feature, in part due to the 60-second limit on Web service-oriented sessions.

About SSO User Initialization

SSO authentication will not succeed when executed on behalf of a yet-unmapped user for Web service usage; that is, an HTTP 401 status will be returned with appropriate response text. The partner application will need to gracefully handle this condition. This differs from the Web browser usage scenario, where the user is directed to a login verification page.

About the Landing Page

When accessing Care360 Labs & Meds from a partner application via SSO linking in a Web service context, the `BlankPage` option is the only landing page option that is applicable. The `BlankPage` option displays a blank page to the user. This is used as the landing page from a successful SSO authentication, and is irrelevant to the subsequent Web service call.



Chapter 3

User Summary Services API Reference

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- [User Summary Services API Reference](#) 36
- [About the WSDL Interface Document](#) 40

About the User Summary Services

When new lab results or user messages are received by Care360 Labs & Meds for a user or an organization, the partner application can automatically receive notification of their availability. These user summary notifications enable the partner application to display related counts for affected patients, rather than requiring users to access Care360 Labs & Meds on a regular basis to view the information.

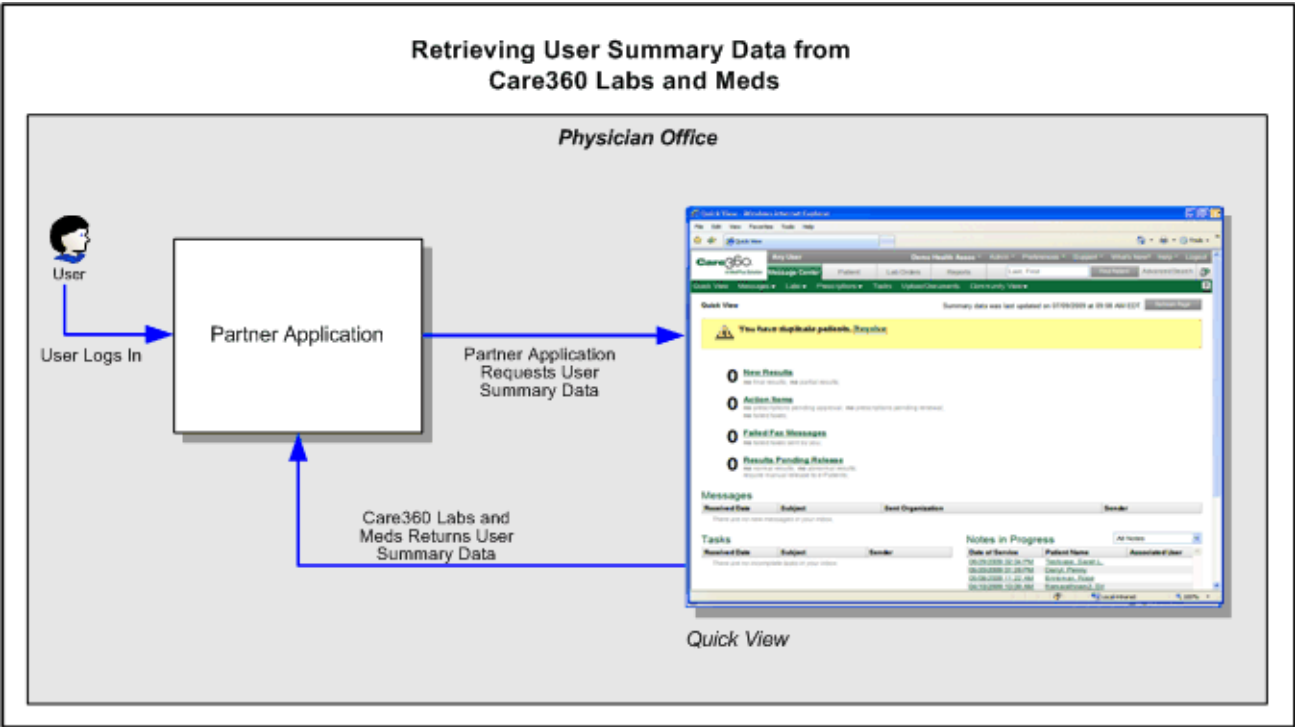
When the user summary notification indicates that new information is available within Care360 Labs & Meds, the user can access the desired Care360 Labs & Meds function to view the associated data. Specific data counts that can be communicated to the partner application include the following:

- New results (including Abnormals, Partials, Partials/Abnormals, and Finals)
- Message counts (including user messages and failed faxes)
- Action Items (including Failed Faxes, Pending Renewals, and Pending Approvals)

If a notification of new results is received, for example, the user can link directly to the Care360 Labs & Meds *New Results* page. New results can be viewed for all associated service providers, including Quest Diagnostics, regional hospital laboratories, or independent laboratories.

Process Walkthrough: Retrieving User Summary Data

The diagram below illustrates (at a high level) the flow of user summary data between Care360 Labs & Meds and a linked partner application. Following the diagram is a step-by-step walkthrough of the user summary data retrieval illustrated in the diagram.



The following steps outline the procedure—and associated systems—involved in communicating user data (for example, result and user message counts) from Care360 Labs & Meds to a partner application.

- ☐ A user (with an established SSO connection) logs in to a partner application.
- ☐ The partner application sends a request to Care360 Labs & Meds for associated user data.
- ☐ Care360 Labs & Meds returns the requested user data to the partner application.
- ☐ During the user's current session, the partner application can either allow the user to manually refresh the data displayed, or it can send automatic refresh requests on a predefined basis.

User Summary Services API Reference

This section provides details about the User Summary Services API calls provided by Care360 Labs & Meds. The User Summary Services component of Care360 Labs & Meds provides operations for receiving notification of the availability of user messages, new results, and pending prescriptions within Care360 Labs & Meds.

An authorized user name and password are required for accessing this Web service.

User Summary Methods

Following is a brief overview of each method provided by the User Summary Services Web service. (Usage details for each method are provided in the following section, “[User Summary Method Details](#)”.)

- **getCounts.** Retrieves user summary data from Care360 Labs & Meds for all organizations with which the current partner application user is associated (up to the maximum number of organizations allowed).
- **getCountsByOrg.** Retrieves user summary data from Care360 Labs & Meds for one or more specific organization(s) with which the current partner application user is associated.
- **getOrgs.** Retrieves a list of organizations with which the partner application user is associated.

User Summary Method Details

The following table provides details about each of the methods listed above.

Method	Description
getCounts	Summary Retrieves user summary data from Care360 Labs & Meds for all organizations with which the current partner application user is associated (up to the maximum number of organizations allowed). Usage The WSUserSummaryData object contains the user summary data that is returned. The WSUserSummaryCounts object contained by WSUserSummaryData includes data for up to the maximum number of organizations allowed. Method Signature WSUserSummaryData getCounts() throws SOAPException
getCountsByOrg	Summary Retrieves user summary data from Care360 Labs & Meds for one or more specific organization(s) with which the current partner application user is associated. Usage The WSUserSummaryData object contains the user summary data that is returned. Throws a SOAPException for the following conditions: • The method is called with an invalid orgUID (either the orgUID does not exist in the system, or the partner does not have access to the requested organization). • The method is called, and passes more orgUIDs than the maximum allowed. • The method is called without passing in an orgUID.

Method	Description
getCountsByOrg, <i>continued</i>	Method Signature WSUserSummaryData getCountsByOrg (String orgUID[]) throws SOAPException
getOrgs	Summary Retrieves a list of organizations with which the partner application user is associated. Usage The WSOrgData object contains the list of organizations (array of WSOrg objects) that is returned. Method Signature WSOrgData getOrg () throws SOAPException

User Summary Objects

The User Summary Services API provides the objects described in the following table.

Note: The attributes defined in this table are case-sensitive.

Object	Description/Attributes	Data Type	Req'd? ^a
WSUserSummaryData	Contains the user summary data returned from Care360 Labs & Meds. Responses include:		
	counts – An array of WSUserSummaryCounts objects, one for each organization.	WSUserSummaryCounts[]	O
	timeStamp – The date and time at which the query was run.	DateTime	O
	warnMessage – A message indicating an error condition (for example, the maximum number of organizations was exceeded).	String	O
WSUserSummaryCounts	Contains the individual data counts returned within the WSUserSummaryData object. Responses include:		
	newResultCount – The number of new results for the organization.	Int	O
	finalAbnormalResultCount – The number of final abnormal results for the organization.	Int	O
	finalNormalResultCount – The number of final normal results for the organization.	Int	O

Object	Description/Attributes	Data Type	Req'd? ^a
WSUserSummaryCounts, <i>continued</i>	ipAbnormalResultCount – The number of abnormal results that are not yet final for the organization.	Int	O
	ipNormalResultCount – The number of normal results that are not final for the organization.	Int	O
	userFailedFaxCount – The number of faxes that have failed for the user from the specified organization.	Int	O
	orgFailedFaxCount – The number of faxes that have failed for the specified organization.	Int	O
	newUserMessageCount – The number of user messages for the user from the specified organization.	Int	O
	prescripPendingApprovalCount – The number of prescriptions for the user pending approval from the specified organization.	Int	O
	prescripPendingRenewalCount – The number of prescriptions for the user pending renewal from the specified organization.	Int	O
	prescripFailedFaxCount – The number of faxed prescriptions that have failed for the user from the specified organization.	Int	O
WSOrgData	Contains the organization data returned by the getOrgs method. Responses include:		
	maxOrgs – The maximum number of organizations that can be queried in a single call.	Long	O
	orgList – An array of WSOrgs, one for each organization.	WSOrg[]	O
WSOrg	timeStamp – The date and time at which the query was run.	DateTime	O
	Contains information returned about a particular organization. Responses include:		
	orgName – The common name of the organization.	String	O

Object	Description/Attributes	Data Type	Req'd? ^a
WSOrg, <i>continued</i>	orgUID – The UID with which the organization is associated.	String	R

a. R = Required, O = Optional, C = Conditional.

About the WSDL Interface Document

In order to utilize a Web service, you must develop a Web service client application. A client application created for accessing the User Summary Web service is referred to as a *static* Web service client, because the client knows where the Web service is located without looking up the service in a UDDI registry. The client calls the Web services via a known service URL to obtain the Web Services Definition Language (WSDL) file that describes the Web services.

A WSDL interface document describes all of the information that is needed by a Web service client to interact with the associated Web service. The WSDL document includes the URL to locate the associated Web services. Once you have located the Web service, or after you have obtained the WSDL, you can build a Web service client application that uses the Web service to perform the desired functions.

The following section describes how to obtain the WSDL document for the User Summary Web services.

Note: You must have a valid user name and password (issued by Quest Diagnostics) in order to access the WSDL interface document. For the Care360 Labs & Meds Production environment, a user name and password will be issued once your application has been developed, tested, and certified.

Accessing the User Summary Services WSDL Document

To access the WSDL service descriptions for the User Summary Services, use your browser to access the URL corresponding to one of the following environments:

- **Staging environment.** Use this environment to develop, test, and certify your Web service application. For the Staging environment URL and endpoint, see “[Staging Environment](#)” below.
- **Production environment.** Use this environment after your Web service application has been certified. For the Production environment URL and endpoint, see “[Production Environment](#)” on page 41.

To save the WSDL document to your hard disk, access the document using your browser and then select *File > Save As*.

Staging Environment

To access the User Summary Services in the Care360 Labs & Meds Staging environment, access the following link:

WSDL Document

<https://portal.care180.com/Care360-services/UserSummaryWebService?WSDL>

Endpoint

<https://portal.care180.com/Care360-services/UserSummaryWebService>

Production Environment

Once you have developed, tested, and certified your Web service client application in the Care360 Labs & Meds Staging environment, you can then update the application to work in the Care360 Labs & Meds Production environment. Connecting a Web service client to the Care360 Labs & Meds Production environment is similar to connecting to the Staging environment (the exposed interfaces are equivalent).

Note: Client applications developed against the Staging environment WSDL document can also be used to access the Care360 Labs & Meds Production environment, and vice versa; the WSDL content is identical in both environments.

To access the User Summary Services in the Production environment, access the following link:

WSDL Document

<https://portal.Care360.com/Care360-services/UserSummaryWebService?WSDL>

Endpoint

<https://portal.Care360.com/Care360-services/UserSummaryWebService>



Chapter 4

Patient Demographic Services API Reference

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- [About the WSDL Interface Document](#) 53

About the Patient Demographic Services

Patient demographic integration enables patient demographic data changes that occur within a partner application to be forwarded to Care360[®] Hub Information Services, in order to maintain the integrity of patient demographic data between the two applications. The types of patient demographic changes that can be submitted include the following:

- Add Patient
- Update Patient
- Delete Patient
- Merge Patients
- Schedule Patient

Patient demographic updates are communicated to Care360 Labs & Meds through Care360 Hub Information Services, which maintains a record of all patient demographic transactions. Any errors that occur when the updates are communicated to Care360 Labs & Meds are returned to the Hub.

Patient demographic update messages submitted by the partner application must be formatted according to the specifications detailed in the Patient Demographic HL7 Specification ([spec_hl7_demographics.pdf](#)).

Outbound patient demographic updates are communicated to the partner application through Care360 Hub Information Services, which maintains a record of all patient demographic transactions. Any errors that occur when the updates are communicated to the partner application are returned to the Hub.

Patient Demographic Services Connectivity

The transfer of all Patient Demographic updates between a partner application and Care360 Hub Information Services will occur via the Hub Patient Demographic Services (HTTPS).

Note: For details of the Patient Demographic Services, see [“Patient Demographic Services API Reference”](#) on page 50.

Real-Time vs. Batch Processing

Patient demographic update messages can either be submitted individually for *real-time* updates that will be processed immediately, or they can be submitted individually for *batch* processing that will occur at a later time. Unlike real-time updates that are processed immediately, HL7 messages that are submitted for batch processing are placed in a queue.

- Use real-time updates for submitting individual patient demographic update messages that are time sensitive.
- Use batch updates for submitting a large number of individual patient demographic messages that are not time sensitive. For example, use batch updates to process the initial patient demographic data load between a partner application and Care360 Labs & Meds.

Both update types are processed in the order in which they are received by Care360 Labs & Meds. To distinguish real-time and batch updates, each type is submitted to Care360 Hub Information Services via its own Patient Demographic Services method. For information on the real-time and batch methods, see [“Patient Demographic Method Details”](#) on page 50.

PID-Only vs. “Fuzzy” Matching

There are two methods available for processing patient demographic merge requests. Partners must specify their preferred method during the initial integration process with Care360 Labs & Meds. The two methods include the following:

- **PID-Only Matching.** This method relies solely on the ability of the partner application to identify a patient using a unique patient identifier (PID). When using this method, the information provided by the partner application is always considered the most accurate (that is, it overrides any existing data in Care360 Labs & Meds).
- **“Fuzzy” Matching.** This method requires the partner application to pass a minimum set of patient demographic data, in addition to the PID, to identify the patient. Care360 Labs & Meds uses the supplied patient demographic data to attempt to identify the matching patient(s) to complete the patient demographic update request.

For additional information, see [“PID-Only Matching Detail”](#) on page 45 and [““Fuzzy” Matching Detail”](#) on page 46.

PID-Only Matching Detail

The following table provides additional details on the rules associated with PID-only matching for patient demographic updates.

PID-Only Matching Request	Potential Results
Add Patient	• If the incoming PID matches no existing patient in the target organization, the patient is added. • If the incoming PID matches a single patient in the target organization, that patient is updated. • If the incoming PID matches more than one existing patient, Care360 Labs & Meds returns an error to the partner application.
Update Patient	• If the incoming PID matches no existing patient in the target organization, the patient is added. • If the incoming PID matches a single patient in the target organization, that patient is updated. • If the incoming PID matches more than one existing patient, Care360 Labs & Meds returns an error to the partner application.
Delete Patient	• If the incoming PID matches no existing patient in the target organization, Care360 Labs & Meds returns an error to the partner application. • If the incoming PID matches a single patient in the target organization, that patient is deleted.^a • If the incoming PID matches more than one existing patient, Care360 Labs & Meds returns an error to the partner application.

PID-Only Matching Request	Potential Results
Merge Patients	• If the target organization contains no patient with the same PID for either the “correct” patient or the “incorrect” patient, Care360 Labs & Meds returns an error to the partner application. • If the target organization contains a single patient with the same PID for the “correct” patient and a single patient with the same PID for the “incorrect” patient, those patients are merged. • If the target organization contains more than one patient with the same PID for either the “correct” patient or the “incorrect” patient, Care360 Labs & Meds returns an error to the partner application.
Schedule Patient	• If the incoming PID matches no existing patient in the target organization, the patient is added. • If the incoming PID matches a single patient in the target organization, that patient is updated. • If the incoming PID matches more than one existing patient, Care360 Labs & Meds returns an error to the partner application.

- a. You cannot delete a patient after clinical entries (for example, lab results) have been associated with that patient, or if the patient is associated with an alias patient. If a delete cannot be performed due to either of these conditions, an error message is returned.

“Fuzzy” Matching Detail

The following table provides additional details on the rules associated with “fuzzy” matching for patient demographic updates.

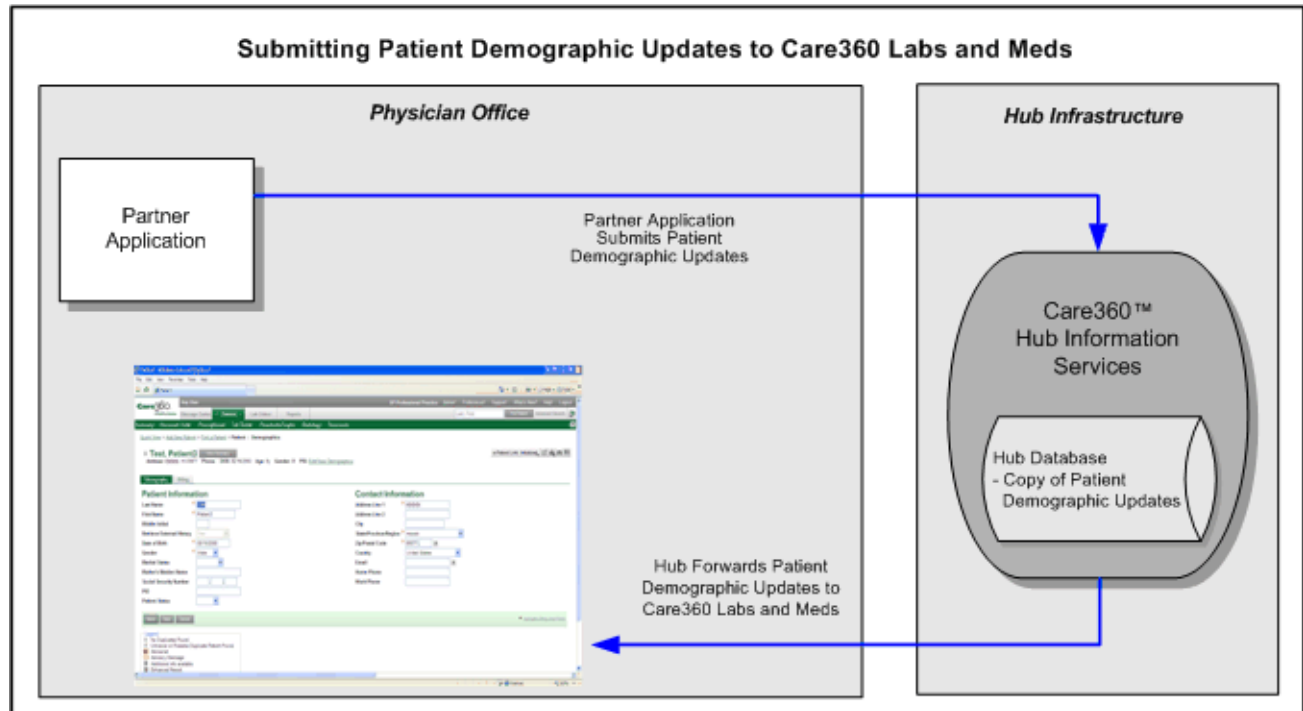
“Fuzzy” Matching Request	Potential Results
Add Patient	• If Care360 Labs & Meds finds no high-confidence match between existing patients in the target organization and the incoming patient demographics, the patient is added. • If Care360 Labs & Meds finds a high-confidence match between a single patient in the target organization and the incoming patient demographics, the matching patient is updated. • If Care360 Labs & Meds finds more than one existing patient that has a high-confidence or ambiguous match with the incoming patient demographics, Care360 Labs & Meds adds the patient, and marks the patient as a potential duplicate. • If Care360 Labs & Meds finds an ambiguous match between the incoming patient demographics and a single patient in the target organization, Care360 Labs & Meds adds the patient, and marks the patient as a potential duplicate.

"Fuzzy" Matching Request	Potential Results
Update Patient	• If Care360 Labs & Meds finds no high-confidence match between existing patients in the target organization and the incoming patient demographics, the patient is added. • If Care360 Labs & Meds finds a high-confidence match between a single patient in the target organization and the incoming patient demographics, the matching patient is updated. • If Care360 Labs & Meds finds more than one existing patient that has a high-confidence or ambiguous match with the incoming patient demographics, Care360 Labs & Meds adds the patient, and marks the patient as a potential duplicate. • If Care360 Labs & Meds finds an ambiguous match between the incoming patient demographics and a single patient in the target organization, Care360 Labs & Meds adds the patient, and marks the patient as a potential duplicate.
Delete Patient	• If Care360 Labs & Meds finds no high-confidence match between existing patients in the target organization and the incoming patient demographics, Care360 Labs & Meds returns an error to the partner application. • If Care360 Labs & Meds finds a high-confidence match between a single patient in the target organization and the incoming patient demographics, the matching patient is deleted.^a • If Care360 Labs & Meds finds more than one high-confidence match between existing patients in the target Organization and the incoming patient demographics, Care360 Labs & Meds returns an error to the partner application.
Merge Patients	• If the target organization contains no match for either the "correct" patient or the "incorrect" patient, Care360 Labs & Meds returns an error to the partner application. • If the target organization contains a single high-confidence match for the "correct" patient and a single high-confidence match for the "incorrect" patient, those patients are merged. • If the target organization contains more than one high-confidence match for either the "correct" patient or the "incorrect" patient, Care360 Labs & Meds returns an error to the partner application.
Schedule Patient	• If the incoming PID matches no existing patient in the target organization, the patient is added. • If the incoming PID matches a single patient in the target organization, that patient is updated. • If the incoming PID matches more than one existing patient, Care360 Labs & Meds returns an error to the partner application.

a. You cannot delete a patient after clinical entries (for example, lab results) have been associated with that patient, or if the patient is associated with an alias patient. If a delete cannot be performed due to either of these conditions, an error message is returned.

Process Walkthrough: Submitting a Patient Demographic Update

The diagram below illustrates (at a high level) the flow of information between a partner application, Care360 Hub Information Services, and Care360 Labs & Meds. Following the diagram is a step-by-step walkthrough of the patient demographic processes illustrated in the diagram.



The following steps outline the process and associated systems involved in a partner application submitting patient demographic update requests to Care360 Labs & Meds.

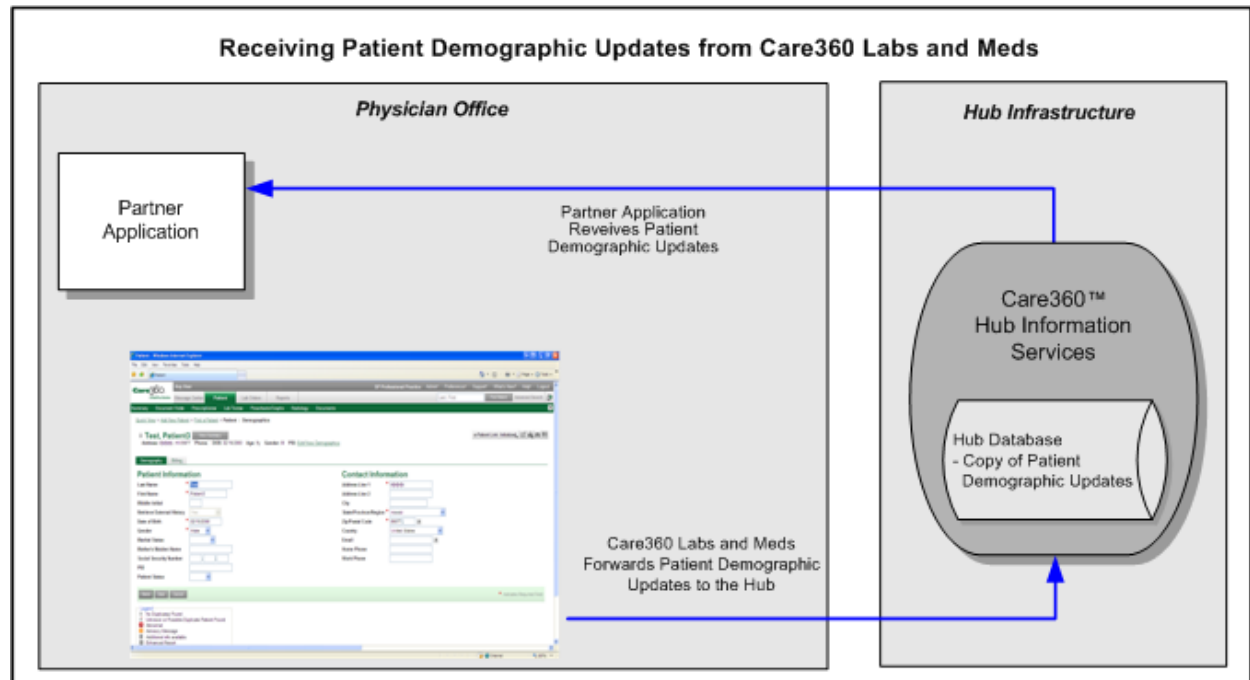
- ☐ The partner application submits patient demographic update messages to the Hub via the Inbound Patient Demographic Services.

Note: Patient demographic update messages provided by the partner application must be formatted according to the specifications detailed in the Patient Demographic HL7 Specification ([spec_hl7_demographics.pdf](#)).

- ☐ The Hub receives the patient demographic messages from the partner application, and verifies the format and content of the patient demographic messages.
- ☐ The Hub records the patient demographic transaction, and stores a copy of the discrete content of the patient demographic messages for a minimum of 90 days (or longer, as specified by the partner).
- ☐ The Hub converts the patient demographic messages to the Care360 Labs & Meds format, and then forwards the messages to Care360 Labs & Meds.
- ☐ Care360 Labs & Meds applies the updates to its patient database.
 - ☐ Any validation errors that occur within Care360 Labs & Meds are returned to the Hub.

Process Walkthrough: Outbound Patient Demographic Updates

The diagram below illustrates (at a high level) the flow of information between Care360 Labs & Meds, Care360 Hub Information Services, and a partner application. Following the diagram is a step-by-step walkthrough of the patient demographic processes illustrated in the diagram.



The following steps outline the procedure—and associated systems—involved in a partner application receiving patient demographic updates from Care360 Labs & Meds.

- ☐ The Hub receives the patient demographic messages from Care360 Labs & Meds, and verifies the format and content of the patient demographic messages.
- ☐ The Hub records the patient demographic transaction, and stores a copy of the discrete content of the patient demographic messages for a minimum of 90 days (or longer, as specified by the partner).
- ☐ The Hub converts the patient demographic messages to the standard HL7 ADT message format, and then forwards the messages to the partner application.
- ☐ The partner application applies the updates to its patient database.
 - ☐ Any validation errors that occur within the partner application are returned to the Hub.

Patient Demographic Services API Reference

This section provides details about the Patient Demographic Services API calls provided by Care360 Hub Information Services. The Patient Demographic Services component of Care360 Hub Information Services provides operations for receiving and processing patient demographic updates from a partner application, and forwarding those updates to Care360 Labs & Meds. Demographic updates can be submitted either in real-time or batch mode.

An authorized user name and password are required for accessing this Web service.

Note: For detailed specifications on formatting HL7 Patient Demographic Message (ADT) messages that are sent to Care360 Hub Information Services for processing, see the Patient Demographic HL7 Specification (spec_hl7_demographics.pdf).

Patient Demographic Methods

Following is a brief overview of each method provided by the Patient Demographic Services Web service. (Usage details for each method are provided in the following section, “[Patient Demographic Method Details](#)”.)

- **submitRealTimeADTMessage.** Submits a patient demographic update ADT message (in HL7 format) to Care360 Hub Information Services for real-time delivery to Care360 Labs & Meds.
- **submitBatchADTMessage.** Submits a patient demographic update ADT message (in HL7 format) to Care360 Hub Information Services in batch mode that places the message in a queue for later delivery to Care360 Labs & Meds.

Patient Demographic Method Details

The following table provides details about each of the methods listed above.

Method	Description
submitRealTimeADTMessage	Summary Submits a patient demographic update (in HL7 format) to Care360 Hub Information Services in real-time mode. This means that each HL7 message is delivered to Care360 Labs & Meds immediately. Usage The InboundPatientDemographicRequest object contains the inbound patient demographic update. Notes: • Even if an inbound patient demographic update is accepted by the Hub, it still may ultimately be rejected by Care360 Labs & Meds. • For detailed specifications on formatting patient demographic update messages that are sent to Care360 Hub Information Services for processing, see the Patient Demographic HL7 Specification (spec_hl7_demographics.pdf). Preconditions • The Demographics service is configured properly in Hub Information Services—Administration.

Method	Description
submitRealTimeADTMessage, <i>continued</i>	Method Signature DemographicResponse submitRealTimeADTMessage (DemographicRequest request) throws SOAPException
submitBatchADTMessage	Summary Submits a patient demographic update (in HL7 format) to Care360 Hub Information Services in batch mode. This means that each HL7 message will be placed in a queue for later delivery (for example, several hours) to Care360 Labs & Meds. Note: Only one HL7 message for one patient can be submitted per submitBatchADTMessage call. Usage The InboundPatientDemographicRequest object contains the inbound patient demographic update. Notes: • Even if an inbound patient demographic update is accepted by the Hub, it still may ultimately be rejected by Care360 Labs & Meds. • For detailed specifications on formatting patient demographic update messages that are sent to Care360 Hub Information Services for processing, see the Patient Demographic HL7 Specification (spec_hl7_demographics.pdf). Preconditions • The Demographics service is configured properly in Hub Information Services—Administration. Method Signature DemographicResponse submitBatchADTMessage (DemographicRequest request) throws SOAPException

Patient Demographic Objects

The Patient Demographic Services API provides the objects described in the following table.

Note: The attributes defined in this table are case-sensitive.

Object	Description/Attributes	Data Type	Req'd? ^a
DemographicRequest	Contains the inbound patient demographics update. Note: For detailed specifications on formatting patient demographic updates that are sent to Care360 Hub Information Services for processing, see the Patient Demographic HL7 Specification (spec_hl7_demographics.pdf). Attributes that can be set for this object include:		
	ADTMessage – The HL7 (ADT and SIU) Patient Demographic update message content.	byte[]	R

Object	Description/Attributes	Data Type	Req'd? ^a
DemographicResponse	Represents the response elements for a demographic update request. This includes the Hub transaction ID and any validation errors that occur. Responses include:		
	messageControlUid – The message control ID included in the patient demographic update message that was submitted to the Hub.	String	O
	hubTransactionUid – The Hub transaction ID for the response.	String	O
	errors – The array of validation and authorization errors returned, if the patient demographic update message is returned based on validation.	String[]	O
	status – The status of the transaction response. Valid values: SUCCESS or FAILURE.	String	R

a. R = Required, O = Optional, C = Conditional.

About the WSDL Interface Document

In order to utilize a Web service, you must develop a Web service client application. A client application created for accessing the Patient Demographic Web service is referred to as a *static* Web service client, because the client knows where the Web service is located without looking up the service in a Universal Description, Discovery, and Integration (UDDI) registry. The client calls the Web services via a known service URL to obtain the WSDL file that describes the Web services.

A WSDL interface document describes all of the information that is needed by a Web service client to interact with the associated Web service. The WSDL document includes the URL to locate the associated Web services. Once you have obtained the WSDL, you can build a Web service client application that uses the Web service to perform the desired functions.

The following section describes how to obtain the WSDL document for Patient Demographic Web services.

Note: You must have a valid user name and password (issued by MedPlus) in order to access the WSDL interface documents. For the Production environment, a user name and password will be issued once your application has been developed, tested, and certified.

Accessing the Patient Demographic Services WSDL Document

To access the WSDL service description for the Patient Demographic Services, use your browser to access the URL corresponding to one of the following Hub environments:

- **Staging environment.** Use this Hub environment for developing, testing, and certifying your Web service application. For the Staging environment URL and endpoint, see “[Staging Environment](#)” below.
- **Production environment.** Use this Hub environment after your Web service application has been certified. For the Production environment URL and endpoint, see “[Production Environment](#)” on page 54.

To save the WSDL document to your hard disk, access the document using your browser and then select *File > Save As*.

Staging Environment

To access the Patient Demographic Services in the Staging environment, access the following link:

WSDL Document

<https://shubservices.questemr.com/demographic/service?wsdl>

Endpoint

<https://shubservices.questemr.com/demographic/service>

Production Environment

Once you have developed, tested, and certified your Web service client application in the Staging environment, you can then update the application to work in the Production environment. Connecting a Web service client to the Production environment is similar to connecting to the Staging environment (the exposed interfaces are equivalent).

Note: Client applications developed against the Staging environment WSDL documents can also be used to access the Production environment, and vice versa; the WSDL content is identical in both environments.

To access the Patient Demographic Services in the Production environment, access the following link:

WSDL Document

<https://hubservices.medplus.com/demographic/service?wsdl>

Endpoint

<https://hubservices.medplus.com/demographic/service>



Chapter 5

Patient Demographic HL7 Specification

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About the Patient Demographic HL7 Specification

This chapter provides detailed format specifications for patient demographic add, delete, update, and merge requests that are submitted by the partner application to Care360® Labs & Meds and vice versa. This exchange of messages allows Care360 Labs & Meds and the partner application to stay in synch. In addition, this chapter provides detailed format specifications for scheduling messages, which are sent from the partner application to Care360 Labs & Meds, and for financial transaction messages, which are sent from Care360 Labs & Meds to the partner application.

All of the demographic messages submitted to Care360 Labs & Meds must adhere to the HL7 2.3 Specification, with any exceptions noted in this chapter. Likewise, Care360 Labs & Meds adheres to this same specification when submitting messages to partner applications.

The following table shows which patient demographic messages are supported for **inbound** (partner application to Care360 Labs & Meds) and **outbound** (Care360 Labs & Meds to partner application) feeds.

HL7 Message	Inbound	Outbound
A28—ADT A28 (Patient Add)	X	X
A29—ADT A29 (Patient Delete)	X	X
A31—ADT A31 (Patient Update)	X	X
A39—ADT A39 (Patient Merge)	X	X
SIU—SIU (Patient Schedule): S12 (New Appt), S14 (Modify Appt), S15 (Cancel Appt), S17 (Delete Appt)	X	
DFT—DFT^P03 (Detail Financial Transaction)		X

This chapter includes the following sections:

- **Patient demographic message format requirements.** For information on the message format requirements, see [“Patient Demographic Message Format Requirements”](#) on page 57.
- **Patient demographic message segment specifications.** Each message contains a number of standard sections. For requirements on the standard segments of a message, see the following:
 - [“ADT A28 \(Patient Add\) Message Segment Specifications”](#) on page 59.
 - [“ADT A29 \(Patient Delete\) Message Segment Specifications”](#) on page 81.
 - [“ADT A31 \(Patient Update\) Message Segment Specifications”](#) on page 93.
 - [“ADT A39 \(Patient Merge\) Message Segment Specifications”](#) on page 115.
 - [“SIU \(Schedule Information Unsolicited\) Message Segment Specifications”](#) on page 127.
 - [“DFT^P03 \(Detail Financial Transaction\) Message Segment Specifications”](#) on page 151.
- **Sample patient demographic messages.** For samples of the various patient demographic messages, see [“Sample Patient Demographic Messages”](#) on page 178.

Patient Demographic Message Format Requirements

The following requirements apply to all of the patient demographic message types described in this chapter.

Newline Characters

Patient demographic HL7 messages must use the carriage return (CR) character (ASCII 0x0D) to indicate a newline. Patient demographic messages that contain a line feed (LF) character (ASCII 0x0A) to indicate a newline will be rejected.

Field Delimiters

A delimiter must separate each field. Even if a field contains no data, it must still be delimited. The delimiter for any given HL7 message is always defined in the MSH segment of the message, as the first character following the segment identifier (MSH.00). See the message segment specifications (later in this chapter) for more detail. Standard HL7 delimiters are used.

Field Specifications

The following table describes the parameters used to define the data fields within each message segment. (The Required parameter description is on the following page.)

Parameter	Description
Type	An HL7 standard data type as defined in the HL7 2.3 Specification.
Length	The maximum allowed length for the field.

Parameter	Description
Required	The fields within each segment are classified based on their requirement status of <i>Required</i> (R), <i>Optional</i> (O), <i>Conditional</i> (C), or <i>Not Supported</i> (NS) in the context of an inbound (partner application to Care360 Labs & Meds) or outbound (Care360 Labs & Meds to partner application) message: • Required. If the corresponding segment is present, the field must also be present within the segment. ○ For inbound feeds, Required indicates that the field must be present or the message will be rejected. ○ For outbound feeds, Required indicates that the field will always be present in the message. • Optional. The field is not required. ○ For inbound feeds, Optional indicates that the field can be present. The segment is accepted whether or not this field is present. If the field is present, it is validated against any stated requirements. ○ For outbound feeds, Optional indicates that the field may or may not be present in the message. • Conditional. The field may or may not be required, depending on certain conditions (stipulated in the <i>Comments</i> column of each segment table). ○ For inbound feeds, Conditional indicates that if the stated conditions are not met, the message is rejected. If the field is present, it is validated against any stated requirements. ○ For outbound feeds, Conditional indicates that the field may or may not be present in the message, depending on the stated conditions. • Not Supported. The field is not used (the corresponding row appears grayed in the table). ○ For inbound feeds, Not Supported indicates that the field can be present. The segment is accepted whether or not this field is present. The content of the field is not used, but it is validated for field type and length, as well as conformance to the specified HL7 table or user-defined table (as applicable). If all fields are successfully validated, the content is passed through; otherwise, the message is rejected. ○ For outbound feeds, Not Supported indicates that the field is never present in the message.

ADT A28 (Patient Add) Message Segment Specifications

The ADT A28 (Patient Add) message is used as follows:

- **Inbound (partner application to Care360 Labs & Meds).** For the partner application to add new patients to Care360 Labs & Meds, the ADT A28 messages must be written to the specifications in this chapter.
- **Outbound (Care360 Labs & Meds to partner application).** For Care360 Labs & Meds to update the partner application with patients that were added to Care360 Labs & Meds, Care360 Labs & Meds adheres to the ADT A28 message specification in this chapter so that the partner application knows what it will be receiving.

Note: All date timestamps are set to Coordinated Universal Time (UTC).

For a sample message, see “[Sample 1—Add Patient](#)” on page 178.

Message Segment Hierarchy

The ADT A28 message segment hierarchy is specified below:

MSH	Message Header (<i>Required</i> ; one per file)
EVN	Event Type (<i>Required</i>)
PID	Patient Identification (<i>Required</i>)
[PD1]	Additional Demographics (<i>Optional</i>)
[{NK1}]	Next of Kin /Associated Parties (<i>Optional</i> ; not supported)
PV1	Patient Visit Data (<i>Required</i>)
[PV2]	Patient Visit—Additional Info. (<i>Optional</i> ; not supported)
[{DB1}]	Disability Information (<i>Optional</i> ; not supported)
[{OBX}]	Observation/Result (<i>Optional</i> ; not supported)
[{AL1}]	Allergy Information (<i>Optional</i> ; not supported)
[{DG1}]	Diagnosis Information (<i>Optional</i>)
[DRG]	Diagnosis Related Group (<i>Optional</i> ; not supported)
[{PR1	Procedures (<i>Optional</i> ; not supported)
[{ROL}]	Role (<i>Optional</i> ; not supported)
}]	
[{GT1}]	Guarantor (<i>Optional</i> ; forwarded to Care360 Labs & Meds if provided. The system can only handle one GT1. There can be one Guarantor with two insurances but not two Guarantors.)
[	
{IN1	Insurance (<i>Optional</i> ; forwarded to Care360 Labs & Meds if provided. The first IN1=Primary Insurance is for Guarantor. The second IN1=Secondary Insurance is for Guarantor (if provided). In order for the IN1 information to be stored by Care360 Labs & Meds, the IN1.47 field must be populated with a T or a P.)
[IN2]	Insurance Additional Info. (<i>Optional</i> ; not supported)
[IN3]	Insurance Additional Info. (<i>Optional</i> ; not supported)
}	
]	
[ACC]	Accident Information (<i>Optional</i> ; not supported)
[UB1]	Universal Bill Information (<i>Optional</i> ; not supported)
[UB2]	Universal Bill 92 Information (<i>Optional</i> ; not supported)

In the hierarchy shown above, braces (**{ }**) indicate where multiple items are allowed, and brackets (**[]**) indicate items that are optional.

Message Segment Specifications

This section provides detailed specifications for each segment of an ADT A28 (Patient Add) message. Supported message segments include the following:

- “MSH—Message Header Segment” on page 60.
- “EVN—Event Type Segment” on page 62.
- “PID—Patient Identification Segment” on page 62.
- “PD1—Patient Additional Demographic Segment” on page 68.
- “PV1—Patient Visit Data Segment” on page 70.
- “DG1—Diagnosis Segment” on page 72.
- “GT1—Guarantor Segment” on page 74.
- “IN1—Insurance Segment” on page 78.

Note: ADT A28 message segments that are not supported are *not* included in this section; for detailed specifications, refer to the HL7 2.3 Specification.

MSH—Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some specifics of the syntax of a message.

Field	Name	Type	Length	Comments	Req'd ^a
MSH.00	Segment Type ID	ST	4	Must be MSH .	R
MSH.01	Field Separator	ST	1	The separator between the message segment ID (“MSH”) and the first real data field (MSH.02). Defines the character to be used as a separator for the rest of the message. The value is a vertical bar ().	R
MSH.02	Encoding Characters	ST	4	Four characters that are used in the following order: component separator, repetition separator, escape character, and sub-component separator. Format: ^~\& These values are recommended by HL7 and are the only values supported.	R
MSH.03	Sending Application	HD	180	The name of the sending application.	O
MSH.04	Sending Facility	HD	180	The sending facility. Identifies the owner of the patient data and who initiated the patient demographic request. This value will be provided by MedPlus®. Inbound: The Hub verifies that the field is populated. Outbound: No verification.	R

Field	Name	Type	Length	Comments	Req'd ^a
MSH.05	Receiving Application	HD	180	The receiving application identifier.	O
MSH.06	Receiving Facility	HD	180	The receiving facility. The account number defined for the requester. This value will be determined by the Client team and MedPlus. Inbound: The Hub verifies that the field is populated. Outbound: No verification.	R
MSH.07	Date/Time of Message	TS	26	The date and time that the sending system created the message. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC). The Hub verifies that this field is populated, and that the value complies with the format above.	R
MSH.08	Security	ST	40		NS
MSH.09	Message Type	CM	7	The type of message being transmitted, and the event leading to the creation of the message. Valid value: A28 (Add Person Information).	R
MSH.10	Message Control ID	ST	20	A number or other data that uniquely identifies the message in its transmission to the receiving system. The Hub verifies that this field is populated.	R
MSH.11	Processing ID	PT	3	The placer system's intent for the message. Valid values include: • P = Production • T = Testing The Hub verifies that the value in this field is P or T.	R
MSH.12	Version ID	ID	8	The value for this field is 2 . 3 .	R
MSH.13	Sequence Number	NM	15		NS
MSH.14	Continuation Pointer	ST	180		NS
MSH.15	Accept Acknowledgment Type	ID	2		NS
MSH.16	Application Acknowledgment Type	ID	2		NS

Field	Name	Type	Length	Comments	Req'd ^a
MSH.17	Country Code	ID	2		NS
MSH.18	Character Set	ID	6		NS
MSH.19	Principal Language of Message	CE	60		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

EVN—Event Type Segment

The Event Type (EVN) segment is used to communicate necessary trigger event information to receiving applications.

Field	Name	Type	Length	Comments	Req'd ^a
EVN.00	Segment Type ID	ST	4	Must be EVN .	R
EVN.01	Event Type Code	ID	3	The second component (trigger event) of MSH.09 (Message Type) should be used to transmit event type code information. This field contains the events corresponding to the trigger events described in this section. Valid value: A28. Note: This field has been retained for backward compatibility only.	R
EVN.02	Recorded Date/Time	TS	26		NS
EVN.03	Date/Time Planned Event	TS	26		NS
EVN.04	Event Reason Code	IS	3		NS
EVN.05	Operator ID	XCN	60		NS
EVN.06	Event Occurred	TS	26		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PID—Patient Identification Segment

The Patient Identification (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Field	Name	Type	Length	Comments	Req'd ^a
PID.00	Segment Type ID	ST	4	Must be PID .	R

Field	Name	Type	Length	Comments	Req'd ^a
PID.01	Set ID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1.	O
PID.02	Patient ID	CX	40	Care360 patient identifier used to uniquely identify a patient within Care360. When the patient is from another institution, outside office, etc., the identifier used by that institution can be shown in this field. This may be a number that multiple disparate corporations or facilities share. Example: BB1123	R
PID.03	Patient ID	CX	40	The primary identifier, or other identifiers used by the facility to identify a patient uniquely (for example, medical record number, billing number, birth registry, etc.). This is the patient identifier associated with the non-Care360 system and it is not always available within Care360.	O
PID.04	Alternate Patient ID (PID)	CX	20		NS
PID.05	Patient Name	XP	48	No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only. The Hub verifies that the field length complies with rules above.	R
PID.06	Mother's Maiden Name	XP	48	Patient's mother's maiden name. Only the first subfield (Family Name) is passed to/from Care360 Labs & Meds.	O
PID.07	Date of Birth	TS	26	Date of birth (DOB), in YYYYMMDD format. The Hub verifies that the DOB is in this format.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.08	Sex	IS	1	Possible values are listed below. • M = Male • F = Female • O = Other • U = Unknown • A = Ambiguous • N = Not applicable • Z = Undifferentiated Note: If Care360 Labs & Meds does not support a value that is submitted on inbound feeds, that value appears as a blank in the user interface.	O
PID.09	Patient Alias	XPN	48	Patient alias name. Only the first five subfields (Family Name, Given Name, Middle Name or Initial, Suffix, Prefix, and Degree) are passed to/from Care360 Labs & Meds.	O
PID.10	Race	CE	250	Repeating field with a maximum of three instances allowed. For HL7 v2.3, values supported by Care360 Labs & Meds are listed below. • W = White • B = Black • A = Asian • I = American Indian or Alaskan • O = Other For HL7 v3.0, values supported by Care360 Labs & Meds are the same as the Centers for Disease Control and Prevention (CDC) race code set (http://phinvads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.11.3883.6.238&code=1000-9) with a Concept Status Date of 09/26/2008. Because this is a repeating field, for a patient whose race is Apache (1010-8), White (2106-3), and Asian (2028-9), for example, you would send all three of the codes: 1010-8^2106-3^2028-9 If a value other than one of those in the CDC race code set is sent, the patient's race will not appear in the Care360 Labs & Meds user interface.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.11	Patient Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the field length complies with rules above.	O
PID.12	County Code	IS	4		NS
PID.13	Phone Number - Home	XTN	40	Repeating field that can accept Home phone number, Cell/Mobile phone number, and email address. Note the following: • If the Home phone number is sent, it must be the first occurrence. • If the Cell/Mobile phone number is sent, then <telecommunication equipment type (ID)> must equal CP. • If there is a Cell/Mobile phone number but no primary Home phone number, the first sequence must be blank (~). • The accepted length for each phone number is 20 numeric characters. No dashes or other separating characters are allowed. Example with home and cell phone (extension and country code omitted) and email: ^333^4445555~^NET^^ example@email.com~^^CP^^777^8889999 Example with home and cell phone (including country code): ^1^333^4445555^~ ^^CP^^1^777^8889999^ The Hub verifies that the value complies with rules above.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.14	Phone Number - Business	XTN	40	Accepted length of this field is 20 numeric characters. No dashes or other separating characters. Example with extension (country code omitted): <code>^^^^^333^4445555^999^</code> Example with extension and country code: <code>^^^^1^333^4445555^999^</code> The Hub verifies that the value complies with rules above. Only the first phone number is passed to Care360 Labs & Meds; any other fields are ignored.	O
PID.15	Language - Patient	CE	250	Values supported by Care360 Labs & Meds are listed in “Patient Language (PID.15)” on page 180. This field uses the HL7 v3.0 field length of 250 rather than the HL7 v2.3 field length of 60. If a value other than those listed is sent, the patient’s language will not appear in the Care360 Labs & Meds user interface.	O
PID.16	Marital Status	IS	1	Values supported by Care360 Labs & Meds are listed below. • P = Polygamous • W = Widowed • D = Divorced • M = Married • A = Annulled • S = Never Married • L = Legally Separated • I = Interlocutory • T = Domestic Partner If a value other than those listed is sent, the patient’s marital status will not appear in the Care360 Labs & Meds user interface.	O
PID.17	Religion	IS	3	Patient religion	O
PID.18	Patient Account Number	CX	20	Contains the patient account number assigned by accounting and to which all charges, payments, etc., are recorded. It is used to identify the patient’s account.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.19	SSN Number - Patient	ST	16	Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900. If present, the Hub verifies that the value complies with the rules above.	O
PID.20	Driver's Lic Num - Patient	DLN	25	DLN format: <license number (ST)> ^ <issuing state, province, country (IS)> ^ <expiration date (DT)>	O
PID.21	Mother's Identifier	CX	20	Used, for example, as a link field for newborns. Typically a patient ID or account number may be used. This field can contain multiple identifiers for the same mother.	O
PID.22	Ethnic Group	CE	250	For HL7 v2.3, values supported by Care360 Labs & Meds are listed below. • H = Hispanic • N = Non-Hispanic • U = Unknown For HL7 v3.0, values supported by Care360 Labs & Meds are the same as the Centers for Disease Control and Prevention (CDC) ethnicity code set (http://phinivads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.11.3883.6.238&code=2133-7) with a Concept Status Date of 09/26/2008. For example, for Mexican American, you would send ^2149-3. If a value other than those in the CDC ethnicity code set is sent, the patient's ethnicity will not appear in the Care360 Labs & Meds user interface.	O
PID.23	Birth Place	ST	60	Indicates the location of the patient's birth.	O
PID.24	Multiple Birth Indicator	ID	2	Indicates whether or not the patient was part of a multiple birth (Yes/No indicator). Valid values: • Y = Yes • N = No • blank The Hub validates this field.	O
PID.25	Birth Order	NM	2	When a patient was part of a multiple birth, a number indicating the patient's birth order is entered in this field.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.26	Citizenship	IS	4	Contains the patient's country of citizenship.	O
PID.27	Veterans Military Status	CE	60	Contains the military status assigned to a veteran. Only the first subfield (Identifier) is passed to/from Care360 Labs & Meds.	O
PID.28	Nationality	CD	80	Contains a code that identifies the nation or national grouping to which the insured person belongs. This information may be different from a person's citizenship in countries in which multiple nationalities are recognized (for example, Spain: Basque, Catalan, etc.). Only the first subfield (Identifier) is passed to/from Care360 Labs & Meds.	O
PID.29	Patient Death Date & Time	TS	26	Contains the date and time at which the patient death occurred.	O
PID.30	Patient Death Indicator	ID	1	Indicates whether or not the patient is deceased (Yes/No indicator). Valid values: • Y = Yes • N = No • blank This field is validated.	O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PD1—Patient Additional Demographic Segment

The Patient Additional Demographic (PD1) segment contains demographic information that is likely to change about the patient.

Field	Name	Type	Length	Comments	Req'd ^a
PD1.01	Living Dependency	IS	2		O
PD1.02	Living Arrangement	IS	2		O
PD1.03	Patient Primary Facility	XON	90		O
PD1.04	Patient Primary Care Provider Name & ID No.	XON	90		O
PD1.05	Student Indicator	IS	2		O
PD1.06	Handicap	IS	2		O
PD1.07	Living Will	IS	2		O

Field	Name	Type	Length	Comments	Req'd ^a
PD1.08	Organ Donor	IS	2		O
PD1.09	Separate Bill	ID	2		O
PD1.10	Duplicate Patient	CX	2		O
PD1.11	Publicity Indicator	CE	1	Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> Inbound valid values: • Y = Yes • N = No • blank Outbound valid values: • Y = Yes • N = No • P = Pending • blank Note: Hub will not edit to ensure valid values.	O
PD1.12	Protection Indicator	ID	1	Inbound valid values: • Y = Yes • N = No • blank Notes: • The patient consent fields will override what is currently defined in Care360 Labs & Meds. • If this field is populated on Inbound feed, it will be ignored. The value in the Publicity Indicator field will be used to set both the disclose and access flags within Care360 Labs & Meds. Outbound valid values: • Y = Yes • N = No • P = Pending • blank Note: Hub will not edit to ensure valid values.	O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PV1—Patient Visit Data Segment

The Patient Visit Data (PV1) segment is used by registration/patient administration applications to communicate information on a visit-specific basis. This segment can be used to send multiple-visit statistic records to the same patient account, or single-visit records to more than one account.

Field	Name	Type	Length	Comments	Req'd ^a
PV1.00	Segment Type ID	ST	4	Must be PV1 .	R
PV1.01	Set ID	SI	4	Will always be 1.	O
PV1.02	Patient Class	IS	1	Will be set to N (Not Applicable)	R
PV1.03	Assigned Patient Location	PL	80		NS
PV1.04	Admission Type	IS	2		NS
PV1.05	Preadmit Number	CX	20		NS
PV1.06	Prior Patient Location	PL	80		NS
PV1.07	Attending Doctor	XCN	60		NS
PV1.08	Referring Doctor	XCN	60		NS
PV1.09	Consulting Doctor	XCN	60		NS
PV1.10	Hospital Service	IS	3		NS
PV1.11	Temporary Location	PL	80		NS
PV1.12	Preadmit Test Indicator	IS	2		NS
PV1.13	Readmission Indicator	IS	2		NS
PV1.14	Admit Source	IS	3		NS
PV1.15	Ambulatory Status	IS	2		NS
PV1.16	VIP Indicator	IS	2		NS
PV1.17	Admitting Doctor	XCN	60		NS
PV1.18	Patient Type	IS	2		NS
PV1.19	Visit Number	CX	20		NS
PV1.20	Financial Class	FC	50		NS
PV1.21	Charge Price Indicator	IS	2		NS
PV1.22	Courtesy Code	IS	2		NS

Field	Name	Type	Length	Comments	Req'd ^a
PV1.23	Credit Rating	IS	2		NS
PV1.24	Contract Code	IS	2		NS
PV1.25	Contract Effective Date	DT	8		NS
PV1.26	Contract Amount	NM	12		NS
PV1.27	Contract Period	NM	3		NS
PV1.28	Interest Code	IS	2		NS
PV1.29	Transfer to Bad Debt Code	IS	1		NS
PV1.30	Transfer to Bad Debt Date	DT	8		NS
PV1.31	Bad Debt Agency Code	IS	10		NS
PV1.32	Bad Debt Transfer Amount	NM	12		NS
PV1.33	Bad Debt Recovery Amount	NM	12		NS
PV1.34	Delete Account Indicator	IS	1		NS
PV1.35	Delete Account Date	DT	8		NS
PV1.36	Discharge Disposition	IS	3		NS
PV1.37	Discharged to Location	CM	25		NS
PV1.38	Diet Type	IS	2		NS
PV1.39	Servicing Facility	IS	2		NS
PV1.40	Bed Status	IS	1		NS
PV1.41	Account Status	IS	2		NS
PV1.42	Pending Location	PL	80		NS
PV1.43	Prior Temporary Location	PL	80		NS
PV1.44	Admit Date/Time	TS	26		NS
PV1.45	Discharge Date/Time	TS	26		NS

Field	Name	Type	Length	Comments	Req'd ^a
PV1.46	Current Patient Balance	NM	12		NS
PV1.47	Total Charges	NM	12		NS
PV1.48	Total Adjustments	NM	12		NS
PV1.49	Total Payments	NM	12		NS
PV1.50	Alternate Visit ID	CX	20		NS
PV1.51	Visit Indicator	IS	1		NS
PV1.52	Other Healthcare Provider	XCN	60		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

DG1—Diagnosis Segment

The Diagnosis (DG1) segment contains patient diagnosis information.

Field	Name	Type	Length	Comments	Req'd ^a
DG1.00	Segment Type ID	ST	4	Must be DG1 .	R
DG1.01	Set ID - Patient ID	SI	4	Used to number DG1 message segments sequentially beginning with 1.	O
DG1.02	Diagnosis Coding Method	ID	2		R
DG1.03	Diagnosis Code	CE	60	Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> DG1.03.01 = ICD-9 code DG1.03.03 = "I9"	O
DG1.04	Diagnosis Description	ST	40	Diagnosis name and description.	O
DG1.05	Diagnosis Date/Time	TS	26	Date/Time that the diagnosis was determined. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC).	O

Field	Name	Type	Length	Comments	Req'd ^a
DG1.06	Diagnosis Type	IS	2	Valid values: • A = Admitting • W = Working • F = Final	R
DG1.07	Major Diagnostic Category	CE	60		O
DG1.08	Diagnostic Related Group	CE	60		O
DG1.09	DRG Approval Indicator	ID	2		O
DG1.10	DRG Grouper Review Code	IS	2		O
DG1.11	Outlier Type	CE	60		O
DG1.12	Outlier Days	NM	3		O
DG1.13	Outlier Cost	CP	12		O
DG1.14	Grouper Version and Type	ST	4		O
DG1.15	Diagnosis Priority	NM	2		O
DG1.16	Diagnosing Clinician	XCN	60		O
DG1.17	Diagnosis Classification	IS	3	Valid values: • C = Consultation • D = Diagnosis • M = Medication (antibiotic) • O = Other • R = Radiological scheduling (not using ICDA codes) • S = Sign and symptom • T = Tissue diagnosis • I = Invasive procedure not classified elsewhere (I.V., catheter, etc.)	O
DG1.18	Confidential Indicator	ID	1	Valid values for this field include: • Y = Yes • N = No	O
DG1.19	Attestation Date/Time	TS	26		O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

GT1—Guarantor Segment

The Guarantor (GT1) segment contains guarantor (for example, the person or the organization with financial responsibility for payment of a patient account) data for patient and insurance billing applications. This segment is applicable only for patient and insurance billing. .

Note: If the guarantor name is blank in Care360 Labs & Meds, the GT1 segment is not created in outbound messages.

Field	Name	Type	Length	Comments	Req'd ^a
GT1.00	Segment Type ID	ST	4	Must be GT1 .	R
GT1.01	Set ID	SI	4	GT1 message segments should be numbered sequentially from 1.	R
GT1.02	Guarantor Number	CX	59		NS
GT1.03	Guarantor Name	XPN	48	No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only. The Hub verifies that the value complies with rules above.	R
GT1.04	Guarantor Spouse Name	XPN	48		NS
GT1.05	Guarantor Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the value complies with rules above.	O
GT1.06	Guarantor Ph Num-Home	XTN	40	Accepted length of this field is 20 numeric characters. No dashes or other separating characters. Example with country code and extension omitted: ^^^^^333^4445555 Example with country code: ^^^^1^333^4445555 If present, the Hub verifies that the value complies with rules above.	O

Field	Name	Type	Length	Comments	Req'd ^a
GT1.07	Guarantor Ph Num-Business	XTN	40	Accepted length of this field is 20 numeric characters. No dashes or other separating characters. Example with country code omitted: ^^^^^333^4445555^999^ Example with country code: ^^^^1^333^4445555^999^ If present, the Hub verifies that the value complies with rules above.	O
GT1.08	Guarantor Date/Time Of Birth	TS	26	The date and time of the guarantor's birth. Format: YYYYMMDDHHMMSS The Hub verifies that the date/time is in this format.	O
GT1.09	Guarantor Sex	IS	1	Valid values for this field include: • M = Male • F = Female • blank The Hub verifies that one of these values is present in this field.	O
GT1.10	Guarantor Type	IS	2		NS
GT1.11	Guarantor Relationship	IS	2	Describes relations to patient. Valid values: • 1 = Self • 2 = Spouse • 8 = Dependent • blank	O
GT1.12	Guarantor SSN	ST	11	Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900. If present, the Hub verifies that the value complies with rules above.	O
GT1.13	Guarantor Date - Begin	DT	8		NS
GT1.14	Guarantor Date - End	DT	8		NS
GT1.15	Guarantor Priority	NM	2		NS
GT1.16	Guarantor Employer Name	XPN	130	Employer name. No more than 130 characters wide. Alphanumeric data only.	O

Field	Name	Type	Length	Comments	Req'd ^a
GT1.17	Guarantor Employer Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the value complies with rules above.	O
GT1.18	Guarantor Employer Phone Number	XTN	40		NS
GT1.19	Guarantor Employee ID Number	CX	20		NS
GT1.20	Guarantor Employment Status	IS	2		NS
GT1.21	Guarantor Organization Name	XON	130		NS
GT1.22	Guarantor Billing Hold Flag	ID	1		NS
GT1.23	Guarantor Credit Rating Code	CE	80		NS
GT1.24	Guarantor Death Date And Time	TS	26		NS
GT1.25	Guarantor Death Flag	ID	1		NS
GT1.26	Guarantor Charge Adjustment Code	CE	80		NS
GT1.27	Guarantor Household Annual Income	CP	10		NS
GT1.28	Guarantor Household Size	NM	3		NS
GT1.29	Guarantor Employer ID Number	CX	20		NS
GT1.30	Guarantor Marital Status Code	IS	1		NS
GT1.31	Guarantor Hire Effective Date	DT	8		NS
GT1.32	Employment Stop Date	DT	8		NS
GT1.33	Living Dependency	IS	2		NS

Field	Name	Type	Length	Comments	Req'd ^a
GT1.34	Ambulatory Status	IS	2		NS
GT1.35	Citizenship	IS	4		NS
GT1.36	Primary Language	CE	60		NS
GT1.37	Living Arrangement	IS	2		NS
GT1.38	Publicity Indicator	CE	80		NS
GT1.39	Protection Indicator	ID	1		NS
GT1.40	Student Indicator	IS	2		NS
GT1.41	Religion	IS	3		NS
GT1.42	Mother's Maiden Name	XPN	48		NS
GT1.43	Nationality	CE	80		NS
GT1.44	Ethnic Group	IS	3		NS
GT1.45	Contact Person's Name	XPN	48		NS
GT1.46	Contact Person's Telephone Number	XTN	40		NS
GT1.47	Contact Reason	CE	80		NS
GT1.48	Contact Relationship	IS	2		NS
GT1.49	Job Title	ST	20		NS
GT1.50	Job Code/Class	JCC	20		NS
GT1.51	Guarantor Employer's Organ. Name	XON	130		NS
GT1.52	Handicap	IS	2		NS
GT1.53	Job Status	IS	2		NS
GT1.54	Guarantor Financial Class	FC	50		NS
GT1.55	Guarantor Race	IS	1		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

IN1—Insurance Segment

The Insurance (IN1) segment contains insurance policy coverage information necessary to produce properly pro-rated and patient and insurance bills. This segment is applicable only for insurance billing.

Field	Name	Type	Length	Comments	Req'd ^a
IN1.00	Segment Type ID	ST	4	Must be IN1 .	R
IN1.01	Set ID	SI	4	IN1 message segments should be numbered sequentially from 1.	R
IN1.02	Insurance Plan ID	CE	50	The Hub verifies that the field is populated.	R
IN1.03	Insurance Company ID	CX	59	QDI Bill mnemonic. Note: Required only if IN1.47 = T(Third-Party Bill).	C
IN1.04	Insurance Company Name	XON	130		O
IN1.05	Insurance Company Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only.	O
IN1.06	Insurance Co. Contact Person	XPN	48		NS
IN1.07	Insurance Co Phone Number	XTN	40		NS
IN1.08	Group Number	ST	50	Characters permitted include: A–Z and 0–9. If present, the Hub verifies that the value complies with rules above.	O
IN1.09	Group Name	XON	130		O
IN1.10	Insured's Group Emp ID	CX	12		NS
IN1.11	Insured's Group Emp Name	XON	130		NS
IN1.12	Plan Effective Date	DT	8		NS
IN1.13	Plan Expiration Date	DT	8		NS
IN1.14	Authorization Information	CM	55		NS
IN1.15	Plan Type	IS	3		NS
IN1.16	Name Of Insured	XPN	48		NS

Field	Name	Type	Length	Comments	Req'd ^a
IN1.17	Insured's Relationship To Patient	IS	2		NS
IN1.18	Insured's Date Of Birth	TS	26		NS
IN1.19	Insured's Address	XAD	106		NS
IN1.20	Assignment Of Benefits	IS	2		NS
IN1.21	Coordination Of Benefits	IS	2		NS
IN1.22	Coord Of Ben. Priority	ST	2		NS
IN1.23	Notice Of Admission Flag	ID	2		NS
IN1.24	Notice Of Admission Date	DT	8		NS
IN1.25	Report Of Eligibility Flag	ID	2		NS
IN1.26	Report Of Eligibility Date	DT	8		NS
IN1.27	Release Information Code	IS	2		NS
IN1.28	Pre-Admit Cert (PAC)	ST	15		NS
IN1.29	Verification Date/Time	TS	26		NS
IN1.30	Verification By	XCN	60		NS
IN1.31	Type Of Agreement Code	IS	2		NS
IN1.32	Billing Status	IS	2		NS
IN1.33	Lifetime Reserve Days	NM	4		NS
IN1.34	Delay Before L.R. Day	NM	4		NS
IN1.35	Company Plan Code	IS	8		NS
IN1.36	Policy Number	ST	50		O
IN1.37	Policy Deductible	CP	12		NS

Field	Name	Type	Length	Comments	Req'd ^a
IN1.38	Policy Limit - Amount	CP	12		NS
IN1.39	Policy Limit - Days	NM	4		NS
IN1.40	Room Rate - Semi-Private	CP	12		NS
IN1.41	Room Rate - Private	CP	12		NS
IN1.42	Insured's Employment Status	CE	60		NS
IN1.43	Insured's Sex	IS	1		NS
IN1.44	Insured's Employer Address	XAD	106		NS
IN1.45	Verification Status	ST	2		NS
IN1.46	Prior Insurance Plan ID	IS	8		NS
IN1.47	Coverage Type	IS	3	Valid values include: T = Third-party bill P = Patient bill C = Client bill If present, the Hub verifies that the value complies with rules above.	O
IN1.48	Handicap	IS	2		NS
IN1.49	Insured's ID Number	CX	12		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

ADT A29 (Patient Delete) Message Segment Specifications

The ADT A29 (Patient Delete) message is used as follows:

- **Inbound (partner application to Care360 Labs & Meds).** For the partner application to delete patients from Care360 Labs & Meds, the ADT A29 messages must be written to the specifications in this chapter.

Note: You cannot delete a patient from Care360 Labs & Meds after clinical entries (for example, lab results) have been associated with that patient, or if the patient is associated with an alias patient. If a delete cannot be performed due to either of these conditions, an error message is returned if your EMR is configured to receive errors from Care360 Labs & Meds. Otherwise, the error message is logged.

- **Outbound (Care360 Labs & Meds to partner application).** For Care360 Labs & Meds to update the partner application with patients that were deleted from Care360 Labs & Meds, Care360 Labs & Meds adheres to the ADT A29 message specification in this chapter so that the partner application knows what it will be receiving.

In general, this message can be used to correct an error in adding the information, to delete a duplicate patient record, or to purge a patient from Care360 Labs & Meds.

Note: All date timestamps are set to Coordinated Universal Time (UTC).

For a sample message, see “[Sample 2—Delete Patient](#)” on page 178.

Message Segment Hierarchy

The ADT A29 message segment hierarchy is specified below:

MSH	Message Header (<i>Required</i> ; one per file)
EVN	Event Type (<i>Required</i>)
PID	Patient Identification (<i>Required</i>)
[PD1]	Additional Demographics (<i>Optional</i> ; not supported)
PV1	Patient Visit Data (<i>Required</i>)
[PV2]	Patient Visit—Additional Info. (<i>Optional</i> ; not supported)
[{DB1}]	Disability Information (<i>Optional</i> ; not supported)
[{OBX}]	Observation/Result (<i>Optional</i> ; not supported)

In the hierarchy shown above, braces ({ }) indicate where multiple items are allowed, and brackets ([]) indicate items that are optional.

Message Segment Specifications

This section provides detailed specifications for each segment of an ADT A29 (Patient Delete) message. Supported message segments include the following:

- “[MSH—Message Header Segment](#)” on page 82.
- “[EVN—Event Type Segment](#)” on page 84.
- “[PID—Patient Identification Segment](#)” on page 84.
- “[PV1—Patient Visit Data Segment](#)” on page 89.

Note: ADT A29 message segments that are not supported are *not* included in this section; for detailed specifications, refer to the HL7 2.3 Specification.

MSH—Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some specifics of the syntax of a message.

Field	Name	Type	Length	Comments	Req'd ^a
MSH.00	Segment Type ID	ST	4	Must be MSH .	R
MSH.01	Field Separator	ST	1	The separator between the message segment ID (“MSH”) and the first real data field (MSH.02). Defines the character to be used as a separator for the rest of the message. The value is a vertical bar ().	R
MSH.02	Encoding Characters	ST	4	Four characters that are used in the following order: component separator, repetition separator, escape character, and sub-component separator. Format: ^~\& These values are recommended by HL7 and are the only values supported.	R
MSH.03	Sending Application	HD	180	The name of the sending application.	O
MSH.04	Sending Facility	HD	180	The sending facility. Identifies the owner of the patient data and who initiated the patient demographic request. This value will be provided by MedPlus. Inbound: The Hub verifies that the field is populated.	R
MSH.05	Receiving Application	HD	180	The receiving application identifier.	O
MSH.06	Receiving Facility	HD	180	The receiving facility. The account number defined for the requester. This value will be determined by the Client team and MedPlus. Inbound: The Hub verifies that the field is populated.	R
MSH.07	Date/Time of Message	TS	26	The date and time that the sending system created the message. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC). The Hub verifies that this field is populated, and that the value complies with the format above.	R
MSH.08	Security	ST	40		NS

Field	Name	Type	Length	Comments	Req'd ^a
MSH.09	Message Type	CM	7	The type of message being transmitted, and the event leading to the creation of the message. Valid value: A29 (Delete Person Information).	R
MSH.10	Message Control ID	ST	20	A number or other data that uniquely identifies the message in its transmission to the receiving system. The Hub verifies that this field is populated.	R
MSH.11	Processing ID	PT	3	The placer system's intent for the message. Valid values include: • P = Production • T = Testing The Hub verifies that the value in this field is P or T.	R
MSH.12	Version ID	ID	8	The value for this field is 2 . 3 .	R
MSH.13	Sequence Number	NM	15		NS
MSH.14	Continuation Pointer	ST	180		NS
MSH.15	Accept Acknowledgment Type	ID	2		NS
MSH.16	Application Acknowledgment Type	ID	2		NS
MSH.17	Country Code	ID	2		NS
MSH.18	Character Set	ID	6		NS
MSH.19	Principal Language of Message	CE	60		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

EVN—Event Type Segment

The Event Type (EVN) segment is used to communicate necessary trigger event information to receiving applications.

Field	Name	Type	Length	Comments	Req'd ^a
EVN.00	Segment Type ID	ST	4	Must be EVN .	R
EVN.01	Event Type Code	ID	3	The second component (trigger event) of MSH.09 (Message Type) should be used to transmit event type code information. This field contains the events corresponding to the trigger events described in this section. The Hub verifies that this field is populated with A29. Note: This field has been retained for backward compatibility only.	R
EVN.02	Recorded Date/Time	TS	26		NS
EVN.03	Date/Time Planned Event	TS	26		NS
EVN.04	Event Reason Code	IS	3		NS
EVN.05	Operator ID	XCN	60		NS
EVN.06	Event Occurred	TS	26		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PID—Patient Identification Segment

The Patient Identification (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Field	Name	Type	Length	Comments	Req'd ^a
PID.00	Segment Type ID	ST	4	Must be PID .	R
PID.01	Set ID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.02	Patient ID	CX	40	Care360 patient identifier used to uniquely identify a patient within Care360. When the patient is from another institution, outside office, etc., the identifier used by that institution can be shown in this field. This may be a number that multiple disparate corporations or facilities share. Example: BB1123	R
PID.03	Patient ID	CX	40	The primary identifier, or other identifiers used by the facility to identify a patient uniquely (for example, medical record number, billing number, birth registry, etc.). This is the patient identifier associated with the non-Care360 system and it is not always available within Care360.	O
PID.04	Alternate Patient ID (PID)	CX	20		NS
PID.05	Patient Name	XPN	48	No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only. The Hub verifies that the value complies with rules above.	R
PID.06	Mother's Maiden Name	XPN	48	Patient's mother's maiden name. Only the first subfield (Family Name) is passed to/from Care360 Labs & Meds.	O
PID.07	Date/Time of Birth	TS	26	Date of birth (DOB), in YYYYMMDDHHMMSS The Hub verifies that the DOB is in this format.	O
PID.08	Sex	IS	1	Possible values are listed below. • M = Male • F = Female • O = Other • U = Unknown • A = Ambiguous • N = Not applicable • Z = Undifferentiated	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.09	Patient Alias	XPN	48	Patient alias name. Only the first five subfields (Family Name, Given Name, Middle Name or Initial, Suffix, Prefix, and Degree) are passed to/from Care360 Labs & Meds.	O
PID.10	Race	CE	250	Repeating field with a maximum of three instances allowed. For HL7 v2.3, values supported by Care360 Labs & Meds are listed below. • W = White • B = Black • A = Asian • I = American Indian or Alaskan • O = Other For HL7 v3.0, values supported by Care360 Labs & Meds are the same as the Centers for Disease Control and Prevention (CDC) race code set (http://phinvads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.1.13883.6.238&code=1000-9) with a Concept Status Date of 09/26/2008. Because this is a repeating field, for a patient whose race is Apache (1010-8), White (2106-3), and Asian (2028-9), for example, you would send all three of the codes: 1010-8^2106-3^2028-9 If a value other than one of those in the CDC race code set is sent, the patient's race will not appear in the Care360 Labs & Meds user interface.	O
PID.11	Patient Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the value complies with rules above.	O
PID.12	County Code	IS	4		NS

Field	Name	Type	Length	Comments	Req'd ^a
PID.13	Phone Number - Home	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example (extension and country code omitted): ^^^^333^4445555^ Example with country code: ^^^^1^333^4445555^ The Hub verifies that the value complies with rules above.	O
PID.14	Phone Number - Business	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example with extension (country code omitted): ^^^^333^4445555^999^ Example with extension and country code: ^^^^1^333^4445555^999^ The Hub verifies that the value complies with rules above.	O
PID.15	Language - Patient	CE	250	Values supported by Care360 Labs & Meds are listed in “ Patient Language (PID.15) ” on page 180. This field uses the HL7 v3.0 field length of 250 rather than the HL7 v2.3 field length of 60. If a value other than those listed is sent, the patient’s language will not appear in the Care360 Labs & Meds user interface.	O
PID.16	Marital Status	IS	1	Values supported by Care360 Labs & Meds are listed below. • P = Polygamous • W = Widowed • D = Divorced • M = Married • A = Annulled • S = Never Married • L = Legally Separated • I = Interlocutory • T = Domestic Partner If a value other than those listed is sent, the patient’s marital status will not appear in the Care360 Labs & Meds user interface.	O
PID.17	Religion	IS	3	Patient religion	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.18	Patient Account Number	CX	20	Contains the patient account number assigned by accounting and to which all charges, payments, etc., are recorded. It is used to identify the patient's account. Only the first subfield (ID Number) is passed to/from Care360 Labs & Meds.	O
PID.19	SSN Number - Patient	ST	16	Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900. If present, the Hub verifies that the value complies with rules above.	O
PID.20	Driver's Lic Num - Patient	DLN	25	DLN format: <license number (ST)> ^ <issuing state, province, country (IS)> ^ <expiration date (DT)> Only the first subfield (License Number) is passed to/from Care360 Labs & Meds.	O
PID.21	Mother's Identifier	CX	20	Used, for example, as a link field for newborns. Typically a patient ID or account number may be used. This field can contain multiple identifiers for the same mother. Only the first subfield (ID Number) is passed to/from Care360 Labs & Meds.	O
PID.22	Ethnic Group	IS	3	For HL7 v2.3, values supported by Care360 Labs & Meds are listed below. • H = Hispanic • N = Non-Hispanic • U = Unknown For HL7 v3.0, values supported by Care360 Labs & Meds are the same as the Centers for Disease Control and Prevention (CDC) ethnicity code set (http://phinvals.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.1.13883.6.238&code=2133-7) with a Concept Status Date of 09/26/2008. For example, for Mexican American, you would send ^2149-3. If a value other than those in the CDC ethnicity code set is sent, the patient's ethnicity will not appear in the Care360 Labs & Meds user interface.	O
PID.23	Birth Place	ST	60	Indicates the location of the patient's birth.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.24	Multiple Birth Indicator	ID	2	Indicates whether or not the patient was part of a multiple birth (Yes/No indicator). Valid values: • Y = Yes • N = No • blank This field is validated.	O
PID.25	Birth Order	NM	2	When a patient was part of a multiple birth, a number indicating the patient's birth order is entered in this field.	O
PID.26	Citizenship	IS	4	Contains the patient's country of citizenship.	O
PID.27	Veterans Military Status	CE	60	Contains the military status assigned to a veteran. Only the first subfield (Identifier) is passed to/from Care360 Labs & Meds.	O
PID.28	Nationality	CD	80	Contains a code that identifies the nation or national grouping to which the insured person belongs. This information may be different from a person's citizenship in countries in which multiple nationalities are recognized (for example, Spain: Basque, Catalan, etc.). Only the first subfield (Identifier) is passed to/from Care360 Labs & Meds.	O
PID.29	Patient Death Date & Time	TS	26	Contains the date and time at which the patient death occurred.	O
PID.30	Patient Death Indicator	ID	1	Indicates whether or not the patient is deceased (Yes/No indicator). Valid values: • Y = Yes • N = No • blank This field is validated.	O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PV1—Patient Visit Data Segment

The Patient Visit Data (PV1) segment is used by registration/patient administration applications to communicate information on a visit-specific basis. This segment can be used to send multiple-visit statistic records to the same patient account, or single-visit records to more than one account.

Field	Name	Type	Length	Comments	Req'd ^a
PV1.00	Segment Type ID	ST	4	Must be PV1 .	R

Field	Name	Type	Length	Comments	Req'd ^a
PV1.01	Set ID	SI	4	Will always be 1.	O
PV1.02	Patient Class	IS	1	Examples of valid values: • E = Emergency • I = Inpatient • O = Outpatient	R
PV1.03	Assigned Patient Location	PL	80		NS
PV1.04	Admission Type	IS	2		NS
PV1.05	Preadmit Number	CX	20		NS
PV1.06	Prior Patient Location	PL	80		NS
PV1.07	Attending Doctor	XCN	60		NS
PV1.08	Referring Doctor	XCN	60		NS
PV1.09	Consulting Doctor	XCN	60		NS
PV1.10	Hospital Service	IS	3		NS
PV1.11	Temporary Location	PL	80		NS
PV1.12	Preadmit Test Indicator	IS	2		NS
PV1.13	Readmission Indicator	IS	2		NS
PV1.14	Admit Source	IS	3		NS
PV1.15	Ambulatory Status	IS	2		NS
PV1.16	VIP Indicator	IS	2		NS
PV1.17	Admitting Doctor	XCN	60		NS
PV1.18	Patient Type	IS	2		NS
PV1.19	Visit Number	CX	20		NS
PV1.20	Financial Class	FC	50		NS
PV1.21	Charge Price Indicator	IS	2		NS
PV1.22	Courtesy Code	IS	2		NS
PV1.23	Credit Rating	IS	2		NS
PV1.24	Contract Code	IS	2		NS

Field	Name	Type	Length	Comments	Req'd ^a
PV1.25	Contract Effective Date	DT	8		NS
PV1.26	Contract Amount	NM	12		NS
PV1.27	Contract Period	NM	3		NS
PV1.28	Interest Code	IS	2		NS
PV1.29	Transfer to Bad Debt Code	IS	1		NS
PV1.30	Transfer to Bad Debt Date	DT	8		NS
PV1.31	Bad Debt Agency Code	IS	10		NS
PV1.32	Bad Debt Transfer Amount	NM	12		NS
PV1.33	Bad Debt Recovery Amount	NM	12		NS
PV1.34	Delete Account Indicator	IS	1		NS
PV1.35	Delete Account Date	DT	8		NS
PV1.36	Discharge Disposition	IS	3		NS
PV1.37	Discharged to Location	CM	25		NS
PV1.38	Diet Type	IS	2		NS
PV1.39	Servicing Facility	IS	2		NS
PV1.40	Bed Status	IS	1		NS
PV1.41	Account Status	IS	2		NS
PV1.42	Pending Location	PL	80		NS
PV1.43	Prior Temporary Location	PL	80		NS
PV1.44	Admit Date/Time	TS	26		NS
PV1.45	Discharge Date/Time	TS	26		NS
PV1.46	Current Patient Balance	NM	12		NS
PV1.47	Total Charges	NM	12		NS

Field	Name	Type	Length	Comments	Req'd ^a
PV1.48	Total Adjustments	NM	12		NS
PV1.49	Total Payments	NM	12		NS
PV1.50	Alternate Visit ID	CX	20		NS
PV1.51	Visit Indicator	IS	1		NS
PV1.52	Other Healthcare Provider	XCN	60		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

ADT A31 (Patient Update) Message Segment Specifications

The ADT A31 (Patient Update) message is used as follows:

- **Inbound (partner application to Care360 Labs & Meds).** For the partner application to update existing patients in Care360 Labs & Meds, the ADT A31 messages must be written to the specifications in this chapter.
- **Outbound (Care360 Labs & Meds to partner application).** For Care360 Labs & Meds to update the partner application with changed patient information, Care360 Labs & Meds adheres to the ADT A31 message specification in this chapter.

Note: All date timestamps are set to Coordinated Universal Time (UTC).

For a sample message, see “[Sample 3—Update Patient](#)” on page 178.

Message Segment Hierarchy

The ADT A31 message segment hierarchy is specified below:

MSH	Message Header (<i>Required</i> ; one per file)
EVN	Event Type (<i>Required</i>)
PID	Patient Identification (<i>Required</i>)
[PD1]	Additional Demographics (<i>Optional</i>)
[{NK1}]	Next of Kin /Associated Parties (<i>Optional</i> ; not supported)
PV1	Patient Visit Data (<i>Required</i>)
[PV2]	Patient Visit—Additional Info. (<i>Optional</i> ; not supported)
PID	Patient Identification (<i>Required</i>)
[PD1]	Additional Demographics (<i>Optional</i>)
[{NK1}]	Next of Kin /Associated Parties (<i>Optional</i> ; not supported)
PV1	Patient Visit Data (<i>Required</i>)
[PV2]	Patient Visit—Additional Info. (<i>Optional</i> ; not supported)
[{DB1}]	Disability Information (<i>Optional</i> ; not supported)
[{OBX}]	Observation/Result (<i>Optional</i> ; not supported)
[{AL1}]	Allergy Information (<i>Optional</i> ; not supported)
[{DG1}]	Diagnosis Information (<i>Optional</i>)
[DRG]	Diagnosis Related Group (<i>Optional</i> ; not supported)
[{PR1	Procedures (<i>Optional</i> ; not supported)
[{ROL}]	Role (<i>Optional</i> ; not supported)
}]	
[{GT1}]	Guarantor (<i>Optional</i> ; forwarded to Care360 Labs & Meds if provided. The system can only handle one GT1. There can be one Guarantor with two insurances but not two Guarantors.)
[	
{IN1	Insurance (<i>Optional</i> ; forwarded to Care360 Labs & Meds if provided. The first IN1=Primary Insurance is for Guarantor. The second IN1=Secondary Insurance is for Guarantor (if provided). In order for the IN1 information to be stored by Care360 Labs & Meds, the IN1.47 field must be populated with a T or a P.)
[IN2]	Insurance Additional Info. (<i>Optional</i> ; not supported)
[IN3]	Insurance Additional Info. (<i>Optional</i> ; not supported)
}	
]	
[ACC]	Accident Information (<i>Optional</i> ; not supported)
[UB1]	Universal Bill Information (<i>Optional</i> ; not supported)
[UB2]	Universal Bill 92 Information (<i>Optional</i> ; not supported)

In the hierarchy shown above, braces ({ }) indicate where multiple items are allowed, and brackets ([]) indicate items that are optional.

Message Segment Specifications

This section provides detailed specifications for each segment of an ADT A31 (Patient Update) message. Supported message segments include the following:

- “MSH—Message Header Segment” on page 94.
- “EVN—Event Type Segment” on page 96.
- “PID—Patient Identification Segment” on page 96.
- “PD1—Patient Additional Demographic Segment” on page 102.
- “PV1—Patient Visit Data Segment” on page 104.
- “DG1—Diagnosis Segment” on page 106.
- “GT1—Guarantor Segment” on page 108.
- “IN1—Insurance Segment” on page 111.

Note: ADT A31 message segments that are not supported are *not* included in this section; for detailed specifications, refer to the HL7 2.3 Specification.

MSH—Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some specifics of the syntax of a message.

Field	Name	Type	Length	Comments	Req'd ^a
MSH.00	Segment Type ID	ST	4	Must be MSH .	R
MSH.01	Field Separator	ST	1	The separator between the message segment ID (“MSH”) and the first real data field (MSH.02). Defines the character to be used as a separator for the rest of the message. The value is a vertical bar ().	R
MSH.02	Encoding Characters	ST	4	Four characters that are used in the following order: component separator, repetition separator, escape character, and sub-component separator. Format: ^~\& These values are recommended by HL7 and are the only values supported.	R
MSH.03	Sending Application	HD	180	The name of the sending application.	O
MSH.04	Sending Facility	HD	180	The sending facility. Identifies the owner of the patient data and who initiated the patient demographic request. This value will be provided by MedPlus. Inbound: The Hub verifies that the field is populated.	R
MSH.05	Receiving Application	HD	180	The receiving application identifier.	O

Field	Name	Type	Length	Comments	Req'd ^a
MSH.06	Receiving Facility	HD	180	The receiving facility. The account number defined for the requester. This value will be determined by MedPlus. Inbound: The Hub verifies that the field is populated.	R
MSH.07	Date/Time of Message	TS	26	The date and time that the sending system created the message. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC). The Hub verifies that this field is populated, and that the value complies with the format above.	R
MSH.08	Security	ST	40		NS
MSH.09	Message Type	CM	7	The type of message being transmitted, and the event leading to the creation of the message. Valid value: A31 (Update Person Information).	R
MSH.10	Message Control ID	ST	20	A number or other data that uniquely identifies the message in its transmission to the receiving system.	R
MSH.11	Processing ID	PT	3	The placer system's intent for the message. Valid values include: • P = Production • T = Testing The Hub verifies that the value is P or T.	R
MSH.12	Version ID	ID	8	The value for this field is 2 . 3.	R
MSH.13	Sequence Number	NM	15		NS
MSH.14	Continuation Pointer	ST	180		NS
MSH.15	Accept Acknowledgment Type	ID	2		NS
MSH.16	Application Acknowledgment Type	ID	2		NS
MSH.17	Country Code	ID	2		NS
MSH.18	Character Set	ID	6		NS
MSH.19	Principal Language of Message	CE	60		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

EVN—Event Type Segment

The Event Type (EVN) segment is used to communicate necessary trigger event information to receiving applications.

Field	Name	Type	Length	Comments	Req'd ^a
EVN.00	Segment Type ID	ST	4	Must be EVN .	R
EVN.01	Event Type Code	ID	3	The second component (trigger event) of MSH.09 (Message Type) should be used to transmit event type code information. This field contains the events corresponding to the trigger events described in this section. Valid value: A31. Note: This field has been retained for backward compatibility only.	R
EVN.02	Recorded Date/Time	TS	26		NS
EVN.03	Date/Time Planned Event	TS	26		NS
EVN.04	Event Reason Code	IS	3		NS
EVN.05	Operator ID	XCN	60		NS
EVN.06	Event Occurred	TS	26		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PID—Patient Identification Segment

The Patient Identification (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Field	Name	Type	Length	Comments	Req'd ^a
PID.00	Segment Type ID	ST	4	Must be PID .	R
PID.01	Set ID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.02	Patient ID	CX	40	Care360 patient identifier used to uniquely identify a patient within Care360. When the patient is from another institution, outside office, etc., the identifier used by that institution can be shown in this field. This may be a number that multiple disparate corporations or facilities share. Example: BB1123	R
PID.03	Patient ID	CX	40	The primary identifier, or other identifiers used by the facility to identify a patient uniquely (for example, medical record number, billing number, birth registry, etc.). This is the patient identifier associated with the non-Care360 system and it is not always available within Care360.	O
PID.04	Alternate Patient ID (PID)	CX	20		NS
PID.05	Patient Name	XP	48	No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only. The Hub verifies that the value complies with rules above.	R
PID.06	Mother's Maiden Name	XP	48	Patient's mother's maiden name. Only the first subfield (Family Name) is passed to/from Care360 Labs & Meds.	O
PID.07	Date of Birth	TS	26	Date of birth (DOB), in YYYYMMDD The Hub verifies that the DOB is in this format.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.08	Sex	IS	1	Possible values are listed below. • M = Male • F = Female • O = Other • U = Unknown • A = Ambiguous • N = Not applicable • Z = Undifferentiated Note: If Care360 Labs & Meds does not support a value that is submitted on inbound feeds, that value appears as a blank in the user interface.	O
PID.09	Patient Alias	XPN	48	Patient alias name. Only the first five subfields (Family Name, Given Name, Middle Name or Initial, Suffix, Prefix, and Degree) are passed to/from Care360 Labs & Meds.	O
PID.10	Race	CE	250	Repeating field with a maximum of three instances allowed. For HL7 v2.3, values supported by Care360 Labs & Meds are listed below. • W = White • B = Black • A = Asian • I = American Indian or Alaskan • O = Other For HL7 v3.0, values supported by Care360 Labs & Meds are the same as the Centers for Disease Control and Prevention (CDC) race code set (http://phinvads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.11.3883.6.238&code=1000-9) with a Concept Status Date of 09/26/2008. Because this is a repeating field, for a patient whose race is Apache (1010-8), White (2106-3), and Asian (2028-9), for example, you would send all three of the codes: 1010-8^2106-3^2028-9 If a value other than one of those in the CDC race code set is sent, the patient's race will not appear in the Care360 Labs & Meds user interface.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.11	Patient Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the value complies with rules above.	O
PID.12	County Code	IS	4		NS
PID.13	Phone Number - Home	XTN	40	Repeating field that can accept Home phone number, Cell/Mobile phone number, and email address. Note the following: • If the Home phone number is sent, it must be the first occurrence. • If the Cell/Mobile phone number is sent, then <telecommunication equipment type (ID)> must equal CP. • If there is a Cell/Mobile phone number but no primary Home phone number, the first sequence must be blank (~). • The accepted length for each phone number is 20 numeric characters. No dashes or other separating characters are allowed. Example with home and cell phone (extension and country code omitted) and email: ^ ^ ^ ^ ^ 333 ^ 4445555 ~ ^ NET ^ ^ example@email.com ~ ^ ^ CP ^ ^ ^ 777 ^ 8889999 Example with home and cell phone (including country code): ^ ^ ^ ^ ^ 1 ^ 333 ^ 4445555 ^ ~ ^ ^ CP ^ ^ 1 ^ 777 ^ 8889999 ^ The Hub verifies that the value complies with rules above.	O
PID.14	Phone Number - Business	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example with extension (country code omitted): ^ ^ ^ ^ ^ 333 ^ 4445555 ^ 999 ^ Example with extension and country code: ^ ^ ^ ^ ^ 1 ^ 333 ^ 4445555 ^ 999 ^ The Hub verifies that the value complies with rules above.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.15	Language - Patient	CE	250	Values supported by Care360 Labs & Meds are listed in “Patient Language (PID.15)” on page 180. This field uses the HL7 v3.0 field length of 250 rather than the HL7 v2.3 field length of 60. If a value other than those listed is sent, the patient’s language will not appear in the Care360 Labs & Meds user interface.	O
PID.16	Marital Status	IS	1	Values supported by Care360 Labs & Meds are listed below. • P = Polygamous • W = Widowed • D = Divorced • M = Married • A = Annulled • S = Never Married • L = Legally Separated • I = Interlocutory • T = Domestic Partner If a value other than those listed is sent, the patient’s marital status will not appear in the Care360 Labs & Meds user interface.	O
PID.17	Religion	IS	3	Patient religion	O
PID.18	Patient Account Number	CX	20	Contains the patient account number assigned by accounting and to which all charges, payments, etc., are recorded. It is used to identify the patient’s account. Only the first subfield (ID Number) is passed to/from Care360 Labs & Meds.	O
PID.19	SSN Number - Patient	ST	16	Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900. If present, the Hub verifies that the value complies with rules above.	O
PID.20	Driver’s Lic Num - Patient	DLN	25	DLN format: <pre><license number (ST)> ^ <issuing state, province, country (IS)> ^ <expiration date (DT)></pre> Only the first subfield (License Number) is passed to/from Care360 Labs & Meds.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.21	Mother's Identifier	CX	20	Used, for example, as a link field for newborns. Typically a patient ID or account number may be used. This field can contain multiple identifiers for the same mother. Only the first subfield (ID Number) is passed to/from Care360 Labs & Meds.	O
PID.22	Ethnic Group	CE	250	For HL7 v2.3, values supported by Care360 Labs & Meds are listed below. • H = Hispanic • N = Non-Hispanic • U = Unknown For HL7 v3.0, values supported by Care360 Labs & Meds are the same as the Centers for Disease Control and Prevention (CDC) ethnicity code set (http://phinivads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.113883.6.238&code=2133-7) with a Concept Status Date of 09/26/2008. For example, for Mexican American, you would send ^2149-3. If a value other than those in the CDC ethnicity code set is sent, the patient's ethnicity will not appear in the Care360 Labs & Meds user interface.	O
PID.23	Birth Place	ST	60	Indicates the location of the patient's birth.	O
PID.24	Multiple Birth Indicator	ID	2	Indicates whether or not the patient was part of a multiple birth (Yes/No indicator). Valid values: • Y = Yes • N = No • blank This field is validated.	O
PID.25	Birth Order	NM	2	When a patient was part of a multiple birth, a number indicating the patient's birth order is entered in this field.	O
PID.26	Citizenship	IS	4	Contains the patient's country of citizenship.	O
PID.27	Veterans Military Status	CE	60	Contains the military status assigned to a veteran. Only the first subfield (Identifier) is passed to/from Care360 Labs & Meds.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.28	Nationality	CD	80	Contains a code that identifies the nation or national grouping to which the insured person belongs. This information may be different from a person's citizenship in countries in which multiple nationalities are recognized (for example, Spain: Basque, Catalan, etc.). Only the first subfield (Identifier) is passed to/from Care360 Labs & Meds.	O
PID.29	Patient Death Date & Time	TS	26	Contains the date and time at which the patient death occurred.	O
PID.30	Patient Death Indicator	ID	1	Indicates whether or not the patient is deceased (Yes/No indicator). Valid values: • Y = Yes • N = No • blank This field is validated.	O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PD1—Patient Additional Demographic Segment

The Patient Additional Demographic (PD1) segment contains demographic information that is likely to change about the patient.

Field	Name	Type	Length	Comments	Req'd ^a
PD1.01	Living Dependency	IS	2		O
PD1.02	Living Arrangement	IS	2		O
PD1.03	Patient Primary Facility	XON	90		O
PD1.04	Patient Primary Care Provider Name & ID No.	XON	90		O
PD1.05	Student Indicator	IS	2		O
PD1.06	Handicap	IS	2		O
PD1.07	Living Will	IS	2		O
PD1.08	Organ Donor	IS	2		O
PD1.09	Separate Bill	ID	2		O
PD1.10	Duplicate Patient	CX	2		O

Field	Name	Type	Length	Comments	Req'd ^a
PD1.11	Publicity Indicator	CE	1	Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> Inbound valid values: • Y = Yes • N = No • blank Outbound valid values: • Y = Yes • N = No • P = Pending • blank Note: Hub will not edit to ensure valid values.	O
PD1.12	Protection Indicator	ID	1	Inbound valid values: • Y = Yes • N = No • blank Notes: • The patient consent fields will override what is currently defined in Care360 Labs & Meds. • If this field is populated on Inbound feed, it will be ignored. The value in the Publicity Indicator field will be used to set both the disclose and access flags within Care360 Labs & Meds. Outbound valid values: • Y = Yes • N = No • P = Pending • blank Note: Hub will not edit to ensure valid values.	O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PV1—Patient Visit Data Segment

The Patient Visit Data (PV1) segment is used by registration/patient administration applications to communicate information on a visit-specific basis. This segment can be used to send multiple-visit statistic records to the same patient account, or single-visit records to more than one account.

Field	Name	Type	Length	Comments	Req'd ^a
PV1.00	Segment Type ID	ST	4	Must be PV1 .	R
PV1.01	Set ID	SI	4	Will always be 1.	O
PV1.02	Patient Class	IS	1	Examples of valid values: • E = Emergency • I = Inpatient • O = Outpatient	R
PV1.03	Assigned Patient Location	PL	80		NS
PV1.04	Admission Type	IS	2		NS
PV1.05	Preadmit Number	CX	20		NS
PV1.06	Prior Patient Location	PL	80		NS
PV1.07	Attending Doctor	XCN	60		NS
PV1.08	Referring Doctor	XCN	60		NS
PV1.09	Consulting Doctor	XCN	60		NS
PV1.10	Hospital Service	IS	3		NS
PV1.11	Temporary Location	PL	80		NS
PV1.12	Preadmit Test Indicator	IS	2		NS
PV1.13	Readmission Indicator	IS	2		NS
PV1.14	Admit Source	IS	3		NS
PV1.15	Ambulatory Status	IS	2		NS
PV1.16	VIP Indicator	IS	2		NS
PV1.17	Admitting Doctor	XCN	60		NS
PV1.18	Patient Type	IS	2		NS
PV1.19	Visit Number	CX	20		NS
PV1.20	Financial Class	FC	50		NS

Field	Name	Type	Length	Comments	Req'd ^a
PV1.21	Charge Price Indicator	IS	2		NS
PV1.22	Courtesy Code	IS	2		NS
PV1.23	Credit Rating	IS	2		NS
PV1.24	Contract Code	IS	2		NS
PV1.25	Contract Effective Date	DT	8		NS
PV1.26	Contract Amount	NM	12		NS
PV1.27	Contract Period	NM	3		NS
PV1.28	Interest Code	IS	2		NS
PV1.29	Transfer to Bad Debt Code	IS	1		NS
PV1.30	Transfer to Bad Debt Date	DT	8		NS
PV1.31	Bad Debt Agency Code	IS	10		NS
PV1.32	Bad Debt Transfer Amount	NM	12		NS
PV1.33	Bad Debt Recovery Amount	NM	12		NS
PV1.34	Delete Account Indicator	IS	1		NS
PV1.35	Delete Account Date	DT	8		NS
PV1.36	Discharge Disposition	IS	3		NS
PV1.37	Discharged to Location	CM	25		NS
PV1.38	Diet Type	IS	2		NS
PV1.39	Servicing Facility	IS	2		NS
PV1.40	Bed Status	IS	1		NS
PV1.41	Account Status	IS	2		NS
PV1.42	Pending Location	PL	80		NS
PV1.43	Prior Temporary Location	PL	80		NS
PV1.44	Admit Date/Time	TS	26		NS

Field	Name	Type	Length	Comments	Req'd ^a
PV1.45	Discharge Date/Time	TS	26		NS
PV1.46	Current Patient Balance	NM	12		NS
PV1.47	Total Charges	NM	12		NS
PV1.48	Total Adjustments	NM	12		NS
PV1.49	Total Payments	NM	12		NS
PV1.50	Alternate Visit ID	CX	20		NS
PV1.51	Visit Indicator	IS	1		NS
PV1.52	Other Healthcare Provider	XCN	60		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

DG1—Diagnosis Segment

The Diagnosis (DG1) segment contains patient diagnosis information.

Field	Name	Type	Length	Comments	Req'd ^a
DG1.00	Segment Type ID	ST	4	Must be DG1 .	R
DG1.01	Set ID - Patient ID	SI	4	Used to number DG1 message segments sequentially beginning with 1.	R
DG1.02	Diagnosis Coding Method	ID	2		O
DG1.03	Diagnosis Code	CE	60	Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> sub-field1 = ICD-9 code sub-field3 = "I9"	O
DG1.04	Diagnosis Description	ST	40	Diagnosis name and description.	O
DG1.05	Diagnosis Date/Time	TS	26	Date/Time that the diagnosis was determined. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC).	O

Field	Name	Type	Length	Comments	Req'd ^a
DG1.06	Diagnosis Type	IS	2	Valid values: • A = Admitting • W = Working • F = Final	R
DG1.07	Major Diagnostic Category	CE	60		O
DG1.08	Diagnostic Related Group	CE	60		O
DG1.09	DRG Approval Indicator	ID	2		O
DG1.10	DRG Grouper Review Code	IS	2		O
DG1.11	Outlier Type	CE	60		O
DG1.12	Outlier Days	NM	3		O
DG1.13	Outlier Cost	CP	12		O
DG1.14	Grouper Version and Type	ST	4		O
DG1.15	Diagnosis Priority	NM	2		O
DG1.16	Diagnosing Clinician	XCN	60		O
DG1.17	Diagnosis Classification	IS	3	Valid values: • C = Consultation • D = Diagnosis • M = Medication (antibiotic) • O = Other • R = Radiological scheduling (not using ICDA codes) • S = Sign and symptom • T = Tissue diagnosis • I = Invasive procedure not classified elsewhere (I.V., catheter, etc.)	O
DG1.18	Confidential Indicator	ID	1		O
DG1.19	Attestation Date/Time	TS	26		O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

GT1—Guarantor Segment

The Guarantor (GT1) segment contains guarantor (for example, the person or the organization with financial responsibility for payment of a patient account) data for patient and insurance billing applications. This segment is applicable only for patient and insurance billing.

Note: If the guarantor name is blank in Care360 Labs & Meds, the GT1 segment is not created in outbound messages.

Field	Name	Type	Length	Comments	Req'd ^a
GT1.00	Segment Type ID	ST	4	Must be GT1 .	R
GT1.01	Set ID	SI	4	GT1 message segments should be numbered sequentially from 1.	R
GT1.02	Guarantor Number	CX	59		NS
GT1.03	Guarantor Name	XPN	48	No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only. The Hub verifies that the value complies with rules above.	R
GT1.04	Guarantor Spouse Name	XPN	48		NS
GT1.05	Guarantor Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the value complies with rules above.	O
GT1.06	Guarantor Ph Num-Home	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example with country code and extension omitted: ^^^^333^4445555 Example with country code: ^^^^1^333^4445555	O

Field	Name	Type	Length	Comments	Req'd ^a
GT1.07	Guarantor Ph Num-Business	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example with country code omitted: ^^^^333^4445555^999^ Example with country code: ^^^^1^333^4445555^999^	O
GT1.08	Guarantor Date/Time Of Birth	TS	26	The date and time of the guarantor's birth. Format: YYYYMMDDHHMMSS The Hub verifies that the date/time is in this format.	O
GT1.09	Guarantor Sex	IS	1	Valid values for this field include: • M = Male • F = Female • blank The Hub verifies that one of these values is present in this field.	O
GT1.10	Guarantor Type	IS	2		NS
GT1.11	Guarantor Relationship	IS	2	Describes relations to patient. Valid values: • 1 = Self • 2 = Spouse • 8 = Dependent • blank	O
GT1.12	Guarantor SSN	ST	11	Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900. If present, the Hub verifies that the value complies with rules above.	O
GT1.13	Guarantor Date - Begin	DT	8		NS
GT1.14	Guarantor Date - End	DT	8		NS
GT1.15	Guarantor Priority	NM	2		NS
GT1.16	Guarantor Employer Name	XPN	130	Employer name. No more than 130 characters wide. Alphanumeric data only.	O
GT1.17	Guarantor Employer Address	XAD	106	No more than 106 characters wide. Add1 50^add2 50^city 50^state 2^zip 10^country code 3. Alphanumeric data only. The Hub verifies that the value complies with rules above.	O

Field	Name	Type	Length	Comments	Req'd ^a
GT1.18	Guarantor Employer Phone Number	XTN	40		NS
GT1.19	Guarantor Employee ID Number	CX	20		NS
GT1.20	Guarantor Employment Status	IS	2		NS
GT1.21	Guarantor Organization Name	XON	130		NS
GT1.22	Guarantor Billing Hold Flag	ID	1		NS
GT1.23	Guarantor Credit Rating Code	CE	80		NS
GT1.24	Guarantor Death Date And Time	TS	26		NS
GT1.25	Guarantor Death Flag	ID	1		NS
GT1.26	Guarantor Charge Adjustment Code	CE	80		NS
GT1.27	Guarantor Household Annual Income	CP	10		NS
GT1.28	Guarantor Household Size	NM	3		NS
GT1.29	Guarantor Employer ID Number	CX	20		NS
GT1.30	Guarantor Marital Status Code	IS	1		NS
GT1.31	Guarantor Hire Effective Date	DT	8		NS
GT1.32	Employment Stop Date	DT	8		NS
GT1.33	Living Dependency	IS	2		NS
GT1.34	Ambulatory Status	IS	2		NS
GT1.35	Citizenship	IS	4		NS
GT1.36	Primary Language	CE	60		NS
GT1.37	Living Arrangement	IS	2		NS

Field	Name	Type	Length	Comments	Req'd ^a
GT1.38	Publicity Indicator	CE	80		NS
GT1.39	Protection Indicator	ID	1		NS
GT1.40	Student Indicator	IS	2		NS
GT1.41	Religion	IS	3		NS
GT1.42	Mother's Maiden Name	XPB	48		NS
GT1.43	Nationality	CE	80		NS
GT1.44	Ethnic Group	IS	3		NS
GT1.45	Contact Person's Name	XPB	48		NS
GT1.46	Contact Person's Telephone Number	XTN	40		NS
GT1.47	Contact Reason	CE	80		NS
GT1.48	Contact Relationship	IS	2		NS
GT1.49	Job Title	ST	20		NS
GT1.50	Job Code/Class	JCC	20		NS
GT1.51	Guarantor Employer's Organ. Name	XON	130		NS
GT1.52	Handicap	IS	2		NS
GT1.53	Job Status	IS	2		NS
GT1.54	Guarantor Financial Class	FC	50		NS
GT1.55	Guarantor Race	IS	1		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

IN1—Insurance Segment

The Insurance (IN1) segment contains insurance policy coverage information necessary to produce properly pro-rated and patient and insurance bills. This segment is applicable only for insurance billing.

Field	Name	Type	Length	Comments	Req'd ^a
IN1.00	Segment Type ID	ST	4	Must be IN1 .	R
IN1.01	Set ID	SI	4	IN1 message segments should be numbered sequentially from 1.	R

Field	Name	Type	Length	Comments	Req'd ^a
IN1.02	Insurance Plan ID	CD	50		R
IN1.03	Insurance Company ID	CX	59	QDI Bill mnemonic.	O
IN1.04	Insurance Company Name	XON	130		O
IN1.05	Insurance Company Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only.	O
IN1.06	Insurance Co. Contact Person	XPN	48		NS
IN1.07	Insurance Co Phone Number	XTN	40		NS
IN1.08	Group Number	ST	50	Characters permitted include: A–Z and 0–9.	O
IN1.09	Group Name	XON	130		O
IN1.10	Insured's Group Emp ID	CX	12		NS
IN1.11	Insured's Group Emp Name	XON	130		NS
IN1.12	Plan Effective Date	DT	8		NS
IN1.13	Plan Expiration Date	DT	8		NS
IN1.14	Authorization Information	CM	55		NS
IN1.15	Plan Type	IS	3		NS
IN1.16	Name Of Insured	XPN	48		NS
IN1.17	Insured's Relationship To Patient	IS	2		NS
IN1.18	Insured's Date Of Birth	TS	26		NS
IN1.19	Insured's Address	XAD	106		NS
IN1.20	Assignment Of Benefits	IS	2		NS
IN1.21	Coordination Of Benefits	IS	2		NS

Field	Name	Type	Length	Comments	Req'd ^a
IN1.22	Coord Of Ben. Priority	ST	2		NS
IN1.23	Notice Of Admission Flag	ID	2		NS
IN1.24	Notice Of Admission Date	DT	8		NS
IN1.25	Report Of Eligibility Flag	ID	2		NS
IN1.26	Report Of Eligibility Date	DT	8		NS
IN1.27	Release Information Code	IS	2		NS
IN1.28	Pre-Admit Cert (PAC)	ST	15		NS
IN1.29	Verification Date/Time	TS	26		NS
IN1.30	Verification By	XCN	60		NS
IN1.31	Type Of Agreement Code	IS	2		NS
IN1.32	Billing Status	IS	2		NS
IN1.33	Lifetime Reserve Days	NM	4		NS
IN1.34	Delay Before L.R. Day	NM	4		NS
IN1.35	Company Plan Code	IS	8		NS
IN1.36	Policy Number	ST	50		O
IN1.37	Policy Deductible	CP	12		NS
IN1.38	Policy Limit - Amount	CP	12		NS
IN1.39	Policy Limit - Days	NM	4		NS
IN1.40	Room Rate - Semi-Private	CP	12		NS
IN1.41	Room Rate - Private	CP	12		NS
IN1.42	Insured's Employment Status	CE	60		NS
IN1.43	Insured's Sex	IS	1		NS

Field	Name	Type	Length	Comments	Req'd ^a
IN1.44	Insured's Employer Address	XAD	106		NS
IN1.45	Verification Status	ST	2		NS
IN1.46	Prior Insurance Plan ID	IS	8		NS
IN1.47	Coverage Type	IS	3	Valid values include: • T = Third-party bill • P = Patient bill • C = Client bill	O
IN1.48	Handicap	IS	2		NS
IN1.49	Insured's ID Number	CX	12		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

ADT A39 (Patient Merge) Message Segment Specifications

The ADT A39 (Patient Merge) message is used as follows:

- **Inbound (partner application to Care360 Labs & Meds).** For the partner application to merge two patient records in Care360 Labs & Meds, the ADT A39 messages must be written to the specifications in this chapter.
- **Outbound (Care360 Labs & Meds to partner application).** For Care360 Labs & Meds to update the partner application with patient records that were merged in Care360 Labs & Meds, Care360 Labs & Meds adheres to the ADT A39 message specification in this chapter so that the partner application knows what it will be receiving.

The ADT A39 message can be used, for example, to merge two patient records for the same patient who was incorrectly filed under two separate PIDs.

Note: All date timestamps are set to Coordinated Universal Time (UTC).

For a sample message, see “[Sample 4—Merge Patient](#)” on page 179.

Message Segment Hierarchy

The ADT A39 message segment hierarchy is specified below:

MSH	Message Header (<i>Required</i> ; one per file)
EVN	Event Type (<i>Required</i>)
{PID	Patient Identification—Correct (<i>Required</i>)
[PD1]	Additional Demographics (<i>Optional</i>)
MRG	Merge Information (<i>Required</i>)
PID	Patient Identification—Incorrect (<i>Required-Inbound Only</i>)
[PV1]	Patient Visit (<i>Optional</i> ; not supported)
}	

In the hierarchy shown above, braces ({ }) indicate where multiple items are allowed, and brackets ([]) indicate items that are optional.

Message Segment Specifications

This section provides detailed specifications for each segment of an ADT A39 (Patient Merge) message. Supported message segments include the following:

- “[MSH—Message Header Segment](#)” on page 116.
- “[EVN—Event Type Segment](#)” on page 118.
- “[PID—Patient Identification Segment —Correct](#)” on page 118.
- “[PD1—Patient Additional Demographic Segment](#)” on page 121.
- “[MRG—Merge Patient Information Segment](#)” on page 123.
- “[PID—Patient Identification Segment—Incorrect](#)” on page 124.

Note: ADT A39 message segments that are not supported are *not* included in this section; for detailed specifications, refer to the HL7 2.3 Specification.

MSH—Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some specifics of the syntax of a message.

Field	Name	Type	Length	Comments	Req'd ^a
MSH.00	Segment Type ID	ST	4	Must be MSH .	R
MSH.01	Field Separator	ST	1	The separator between the message segment ID (“MSH”) and the first real data field (MSH.02). Defines the character to be used as a separator for the rest of the message. The value is a vertical bar ().	R
MSH.02	Encoding Characters	ST	4	Four characters that are used in the following order: component separator, repetition separator, escape character, and sub-component separator. Format: ^~\& These values are recommended by HL7 and are the only values supported.	R
MSH.03	Sending Application	HD	180	The name of the sending application.	O
MSH.04	Sending Facility	HD	180	The sending facility. Identifies the owner of the patient data and who initiated the patient demographic request. This value will be provided by MedPlus. Inbound: The Hub verifies that the field is populated.	R
MSH.05	Receiving Application	HD	180	The receiving application identifier.	O
MSH.06	Receiving Facility	HD	180	The receiving facility. The account number defined for the requester. This value will be determined by the Client team and MedPlus. Inbound: The Hub verifies that the field is populated.	R
MSH.07	Date/Time of Message	TS	26	The date and time that the sending system created the message. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC). The Hub verifies that this field is populated and that the value complies with the format above.	R
MSH.08	Security	ST	40		NS

Field	Name	Type	Length	Comments	Req'd ^a
MSH.09	Message Type	CM	7	The type of message being transmitted, and the event leading to the creation of the message. Valid value: A39 (Merge Person Information).	R
MSH.10	Message Control ID	ST	20	A number or other data that uniquely identifies the message in its transmission to the receiving system. The Hub verifies that this field is populated.	R
MSH.11	Processing ID	PT	3	The placer system's intent for the message. Valid values include: • P = Production • T = Testing The Hub verifies that the value in this field is P or T.	R
MSH.12	Version ID	ID	8	The value for this field is 2 . 3 .	R
MSH.13	Sequence Number	NM	15		NS
MSH.14	Continuation Pointer	ST	180		NS
MSH.15	Accept Acknowledgment Type	ID	2		NS
MSH.16	Application Acknowledgment Type	ID	2		NS
MSH.17	Country Code	ID	2		NS
MSH.18	Character Set	ID	6		NS
MSH.19	Principal Language of Message	CE	60		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

EVN—Event Type Segment

The Event Type (EVN) segment is used to communicate necessary trigger event information to receiving applications.

Field	Name	Type	Length	Comments	Req'd ^a
EVN.00	Segment Type ID	ST	4	Must be EVN .	R
EVN.01	Event Type Code	ID	3	The second component (trigger event) of MSH.09 (<i>Message Type</i>) should be used to transmit event type code information. This field contains the events corresponding to the trigger events described in this section. Valid value: A39. Note: This field has been retained for backward compatibility only.	R
EVN.02	Recorded Date/Time	TS	26		NS
EVN.03	Date/Time Planned Event	TS	26		NS
EVN.04	Event Reason Code	IS	3		NS
EVN.05	Operator ID	XCN	60		NS
EVN.06	Event Occurred	TS	26		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PID—Patient Identification Segment —Correct

The Patient Identification (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Field	Name	Type	Length	Comments	Req'd ^a
PID.00	Segment Type ID	ST	4	Must be PID .	R
PID.01	Set ID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1.	R

Field	Name	Type	Length	Comments	Req'd ^a
PID.02	Patient ID	CX	40	Care360 patient identifier used to uniquely identify a patient within Care360. When the patient is from another institution, outside office, etc., the identifier used by that institution can be shown in this field. This may be a number that multiple disparate corporations or facilities share. Example: BB1123	R
PID.03	Patient ID	CX	40	The primary identifier, or other identifiers used by the facility to identify a patient uniquely (for example, medical record number, billing number, birth registry, etc.). This is the patient identifier associated with the non-Care360 system and it is not always available within Care360.	O
PID.04	Alternate Patient ID (PID)	CX	20		NS
PID.05	Patient Name	XP	48	No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only. The Hub verifies that the field length complies with rules above.	R
PID.06	Mother's Maiden Name	XP	48		NS
PID.07	Date/Time of Birth	TS	26	Date of birth (DOB), in YYYYMMDDHHMMSS The Hub verifies that the DOB is in this format.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.08	Sex	IS	1	Possible values are listed below. • M = Male • F = Female • O = Other • U = Unknown • A = Ambiguous • N = Not applicable • Z = Undifferentiated • blank Note: If Care360 Labs & Meds does not support a value that is submitted on inbound feeds, that value appears as a blank in the user interface.	O
PID.09	Patient Alias	XPN	48	Patient alias name. Only the first five subfields (Family Name, Given Name, Middle Name or Initial, Suffix, Prefix, and Degree) are passed to/from Care360 Labs & Meds.	O
PID.10	Race	IS	1		NS
PID.11	Patient Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the field length complies with rules above.	O
PID.12	County Code	IS	4		NS
PID.13	Phone Number - Home	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example (extension and country code omitted): ^ ^ ^ ^ ^ 3 3 3 ^ 4 4 4 5 5 5 ^ Example with country code: ^ ^ ^ ^ 1 ^ 3 3 3 ^ 4 4 4 5 5 5 ^	O
PID.14	Phone Number - Business	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example with extension (country code omitted): ^ ^ ^ ^ ^ 3 3 3 ^ 4 4 4 5 5 5 ^ 9 9 9 ^ Example with extension and country code: ^ ^ ^ ^ 1 ^ 3 3 3 ^ 4 4 4 5 5 5 ^ 9 9 9 ^	O
PID.15	Language - Patient	CE	60		NS

Field	Name	Type	Length	Comments	Req'd ^a
PID.16	Marital Status	IS	1		NS
PID.17	Religion	IS	3		NS
PID.18	Patient Account Number	CX	20		NS
PID.19	SSN Number - Patient	ST	16	Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900. If present, the Hub verifies that the value complies with rules above.	O
PID.20	Driver's Lic Num - Patient	DLN	25		NS
PID.21	Mother's Identifier	CX	20		NS
PID.22	Ethnic Group	IS	3		NS
PID.23	Birth Place	ST	60		NS
PID.24	Multiple Birth Indicator	ID	2		NS
PID.25	Birth Order	NM	2		NS
PID.26	Citizenship	IS	4		NS
PID.27	Veterans Military Status	CE	60		NS
PID.28	Nationality	CD	80		NS
PID.29	Patient Death Date & Time	TS	26		NS
PID.30	Patient Death Indicator	ID	1		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PD1—Patient Additional Demographic Segment

The Patient Additional Demographic (PD1) segment contains demographic information that is likely to change about the patient.

Field	Name	Type	Length	Comments	Req'd ^a
PD1.01	Living Dependency	IS	2		O
PD1.02	Living Arrangement	IS	2		O
PD1.03	Patient Primary Facility	XON	90		O

Field	Name	Type	Length	Comments	Req'd ^a
PD1.04	Patient Primary Care Provider Name & ID No.	XON	90		O
PD1.05	Student Indicator	IS	2		O
PD1.06	Handicap	IS	2		O
PD1.07	Living Will	IS	2		O
PD1.08	Organ Donor	IS	2		O
PD1.09	Separate Bill	ID	2		O
PD1.10	Duplicate Patient	CX	2		O
PD1.11	Publicity Indicator	CE	1	Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> Inbound valid values: • Y = Yes • N = No • blank Outbound valid values: • Y = Yes • N = No • P = Pending • blank Note: Hub will not edit to ensure valid values.	O

Field	Name	Type	Length	Comments	Req'd ^a
PD1.12	Protection Indicator	ID	1	Inbound valid values: • Y = Yes • N = No • blank Outbound valid values: • Y = Yes • N = No • P = Pending • blank Notes: • If this field is populated on Inbound feed, it will be ignored. The value in the Publicity Indicator field will be used to set both the disclose and access flags within Care360 Labs & Meds. • Hub will not edit to ensure valid values.	O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

MRG—Merge Patient Information Segment

The Merge Patient Information (MRG) segment provides receiving applications with information necessary to initiate the merging of patient data, as well as groups of records.

Field	Name	Type	Length	Comments	Req'd ^a
MRG.00	Segment Type ID	ST	4	Must be MRG .	R
MRG.01	Prior Patient ID - Internal	CX	20	The internal prior patient identifier. This field contains a list of potential “old” numbers to match. Only one old number can be merged with one new number in a transaction.	O
MRG.02	Prior Alternate Patient ID	CX	20	The prior alternate patient identifier.	O
MRG.03	Prior Patient Account Number	CX	20	The prior patient account number.	O
MRG.04	Prior Patient ID - External	CX	40	The external prior patient identifier. Note: Must not contain the same value as PID.02.	R
MRG.05	Prior Visit Number	CX	20	The prior visit number.	O
MRG.06	Prior Alternate Visit ID	CX	20	The prior alternate visit number.	O

Field	Name	Type	Length	Comments	Req'd ^a
MRG.07	Prior Patient Name	XPN	48	The prior name of the patient. This field is not used to change a patient name. No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only. The Hub verifies that the value complies with rules above.	R

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PID—Patient Identification Segment—Incorrect

The Patient Identification (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Note: This segment is used on inbound transactions **only**.

Field	Name	Type	Length	Comments	Req'd ^a
PID.00	Segment Type ID	ST	4	Must be PID .	R
PID.01	Set ID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1. Must be set to 2 to identify incorrect person information. The Hub verifies that the value complies with rules above.	R
PID.02	Patient ID	CX	40		NS
PID.03	Patient ID	CX	40		NS
PID.04	Alternate Patient ID (PID)	CX	20		NS
PID.05	Patient Name	XPN	48		NS
PID.06	Mother's Maiden Name	XPN	48		NS
PID.07	Date/Time of Birth	TS	26	Date of birth (DOB), in YYYYMMDDHHMMSS The Hub verifies that the DOB is in this format.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.08	Sex	IS	1	Possible values are listed below. • M = Male • F = Female • O = Other • U = Unknown • A = Ambiguous • N = Not applicable • Z = Undifferentiated • blank Note: If Care360 Labs & Meds does not support a value that is submitted on inbound feeds, that value appears as a blank in the user interface.	O
PID.09	Patient Alias	XPN	48	Patient alias name. Only the first five subfields (Family Name, Given Name, Middle Name or Initial, Suffix, Prefix, and Degree) are passed to/from Care360 Labs & Meds.	O
PID.10	Race	IS	1		NS
PID.11	Patient Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. The Hub verifies that the field length complies with rules above.	O
PID.12	County Code	IS	4		NS
PID.13	Phone Number - Home	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example (extension and country code omitted): ^ ^ ^ ^ ^ 3 3 3 ^ 4 4 4 5 5 5 5 ^ Example with country code: ^ ^ ^ ^ 1 ^ 3 3 3 ^ 4 4 4 5 5 5 5 ^	O
PID.14	Phone Number - Business	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example with extension (country code omitted): ^ ^ ^ ^ ^ 3 3 3 ^ 4 4 4 5 5 5 5 ^ 9 9 9 ^ Example with extension and country code: ^ ^ ^ ^ 1 ^ 3 3 3 ^ 4 4 4 5 5 5 5 ^ 9 9 9 ^	O
PID.15	Language - Patient	CE	60		NS

Field	Name	Type	Length	Comments	Req'd ^a
PID.16	Marital Status	IS	1		NS
PID.17	Religion	IS	3		NS
PID.18	Patient Account Number	CX	20		NS
PID.19	SSN Number - Patient	ST	16	Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900. If present, the Hub verifies that the value complies with rules above.	O
PID.20	Driver's Lic Num - Patient	DLN	25		NS
PID.21	Mother's Identifier	CX	20		NS
PID.22	Ethnic Group	IS	3		NS
PID.23	Birth Place	ST	60		NS
PID.24	Multiple Birth Indicator	ID	2		NS
PID.25	Birth Order	NM	2		NS
PID.26	Citizenship	IS	4		NS
PID.27	Veterans Military Status	CE	60		NS
PID.28	Nationality	CD	80		NS
PID.29	Patient Death Date & Time	TS	26		NS
PID.30	Patient Death Indicator	ID	1		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

SIU (Schedule Information Unsolicited) Message Segment Specifications

The purpose of the SIU (Schedule Information Unsolicited) HL7 message type is to enable a partner application to submit patient scheduling data to launch workflows in Care360 Labs & Meds. This can be used, for example, to gather pre-visit data, medication history, or to check patient eligibility.

SIU messages are inbound-only (partner application to Care360 Labs & Meds). The following SIU messages are supported:

- SIU^S12 (New Appt)
- SIU^S14 (Modify Appt)
- SIU^S15 (Cancel Appt)
- SIU^S17 (Delete Appt)

Notes:

- The system is designed to process only one appointment per message. If multiple appointments are sent in the same message, the system will only process the first appointment.
- For scheduling information, the AIP (Appointment Information–Personnel Resource) segment is the only one used by Care360 Labs & Meds. AIS (Appointment Information–Services), AIG (Appointment Information–General Resources), and AIL (Appointment Information–Location) are not used.
- All date timestamps are set to Coordinated Universal Time (UTC).

For a sample message, see “[Sample 5—Schedule Patient](#)” on page 179.

Message Segment Hierarchy

The SIU message segment hierarchy is specified below:

MSH	Message Header (<i>Required</i> ; one per file)
SCH	Schedule Activity Information (<i>Required</i> ; one per file)
[{NTE}]	Notes (<i>Optional</i> ; multiple per SCH)
[{PID}]	Patient Identification (<i>Required</i> ; one per file)
PV1	Patient Visit Data (<i>Optional</i> ; one per PID)
PV2	Patient Visit Data - Additional Information (<i>Optional</i> ; one per PID)
[{OBX}]	Observation Result (<i>Optional</i> ; multiple per PID)
[{DG1}]	Diagnosis (<i>Optional</i> ; multiple per PID)
{RGS	Resource Group Segment (<i>Required</i> ; multiple per file. Only the first segment sent is used.)
[{AIS}]	Appt info - Services (<i>Optional</i> ; multiple per RGS)
[{NTE}]	Notes (<i>Optional</i> ; multiple per AIS)
[{AIG}]	Appt info - General resources (<i>Optional</i> ; multiple per RGS)
[{NTE}]	Notes (<i>Optional</i> ; multiple per AIG)
[{AIL}]	Appt info - Location (<i>Optional</i> ; not supported)
[{NTE}]	Notes (<i>Optional</i> ; multiple per AIL)
[{AIP}]	Appt info - Personnel Resource (<i>Optional</i> ; multiple per RGS. Only the first segment sent is used.)
[{NTE}]	Notes (<i>Optional</i> ; multiple per AIP)
}	

In the hierarchy shown above, braces (**{ }**) indicate where multiple items are allowed, and brackets (**[]**) indicate items that are optional.

Message Segment Specifications

This section provides detailed specifications for each segment of an SIU (Schedule Information Unsolicited) message. Supported message segments include the following:

- “MSH—Message Header Segment” on page 128.
- “SCH—Schedule Activity Information Segment” on page 130.
- “PID—Patient Identification Segment” on page 135.
- “PVI—Patient Visit Data Segment” on page 141.
- “DG1—Diagnosis Segment” on page 143.
- “RGS—Resource Group Segment” on page 145.
- “AIS—Appointment Information—Services Segment” on page 146.
- “AIG—Appointment Information—General Resources Segment” on page 146.
- “AIL—Appointment Information—Location Segment” on page 147.
- “AIP—Appointment Information—Personnel Resource Segment” on page 148.

Note: SIU message segments that are not supported are *not* included in this section; for detailed specifications, refer to the HL7 2.3 Specification.

MSH—Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some specifics of the syntax of a message.

Field	Name	Type	Length	Comments	Req'd ^a
MSH.00	Segment Type ID	ST	4	Must be MSH .	R
MSH.01	Field Separator	ST	1	The separator between the message segment ID (“MSH”) and the first real data field (MSH.02). Defines the character to be used as a separator for the rest of the message. The value is a vertical bar ().	R
MSH.02	Encoding Characters	ST	4	Four characters that are used in the following order: component separator, repetition separator, escape character, and sub-component separator. Format: ^~\& These values are recommended by HL7 and are the only values supported.	R
MSH.03	Sending Application	HD	180	The name of the sending application.	O
MSH.04	Sending Facility	HD	180	The sending facility. Identifies the owner of the patient data and who initiated the patient demographic request. This value will be provided by MedPlus. The Hub verifies that the field is populated.	R

Field	Name	Type	Length	Comments	Req'd ^a
MSH.05	Receiving Application	HD	180	The receiving application identifier.	O
MSH.06	Receiving Facility	HD	180	The receiving facility. The account number defined for the requester. This value will be determined by the Client team and MedPlus. The Hub verifies that the field is populated.	R
MSH.07	Date/Time of Message	TS	26	The date and time that the sending system created the message. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC). The Hub verifies that this field is populated, and that the value complies with the format above.	R
MSH.08	Security	ST	40		NS
MSH.09	Message Type	CM	7	The type of message being transmitted, and the event leading to the creation of the message. Acceptable values for this field: • SIU^S12 = New Appt • SIU^S14 = Modify Appt • SIU^S15 = Cancel Appt • SIU^S17 = Delete Appt	R
MSH.10	Message Control ID	ST	20	A number or other data that uniquely identifies the message in its transmission to the receiving system.	R
MSH.11	Processing ID	PT	3	The placer system's intent for the message. Valid values include: • P = Production • T = Testing The Hub verifies that the value in this field is P or T.	R
MSH.12	Version ID	ID	8	The value for this field is 2 . 3.	R
MSH.13	Sequence Number	NM	15		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

SCH—Schedule Activity Information Segment

The Schedule Activity Information (SCH) segment is used to communicate necessary schedule activity information to receiving applications.

Field	Name	Type	Length	Comments	Req'd ^a
SCH.00	Segment Type ID	ST	4	Must be SCH .	R
SCH.01	Placer Appointment ID	EI	75	Contains the placer application's permanent identifier for the appointment request (and the scheduled appointment itself, when it has been confirmed as a booked slot by the filler application). The first component is a string that identifies an individual appointment request, or a booked appointment. Format: <entity identifier (ST)> ^ <namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)> Notes: • This is the unique identifier for an appointment. It is created for a new (S12) and the same value should be sent for any subsequent updates, cancels or deletes (S14, S15, S17). • The 1st sub component is the unique id and the 2nd sub component is the system responsible for creating the id (namespace). • The 1st and 2nd sub components must be populated.	R
SCH.02	Filler Appointment ID	EI	75	On initial request and other messages where a filler has not yet assigned a filler appointment ID, this field should not contain a value. In all subsequent messages where a filler application has assigned a filler appointment ID and communicated it to other applications, this field is required.	C
SCH.03	Occurrence Number	NM	5	If the transaction using this segment is meant to apply to only one occurrence of a repeating appointment, and an occurrence number is required to uniquely identify the child appointment (that is, the child does not have a separate and unique placer appointment ID or filler appointment ID), then this field is required.	C
SCH.04	Placer Group Number	EI	75		O

Field	Name	Type	Length	Comments	Req'd ^a
SCH.05	Schedule ID	CE	200	Contains an identifier code for the schedule in which this appointment is (or will be) booked. This field is provided for instances in which filler applications maintain multiple schedules, and when a particular resource or set of resources is controlled by more than one of those schedules. Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)>	O
SCH.06	Event Reason	CE	200	Contains an identifier code for the reason that the notification event was triggered. This field may contain a code describing the cancel reason, the delete reason, the discontinue reason, the add reason, the block reason or any other code describing the reason that a specific event will occur. Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> The event reason is displayed in Care360 Labs & Meds. The event reason itself does not trigger any action.	R

Field	Name	Type	Length	Comments	Req'd ^a
SCH.07	Appointment Reason	CE	200	Contains an identifier code for the reason that the appointment is to take place. This field may contain a Universal Service Identifier describing the observation/test/battery/ procedure or other activity that is to take place during the requested appointment, similar to the Universal Service Identifier defined for the OBR segment in the Order Entry chapter (of the HL7 standard). It may also contain a site-specific code describing a pre-defined set of reasons that an appointment may be set to occur. This code can be based on local and/or universal codes. Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> The following identifier codes are valid: • ROUTINE = Routine appointment - default if not valued. • WALKIN = A previously unscheduled walk-in visit. • CHECKUP = A routine check-up, such as an annual physical. • FOLLOWUP = A follow up visit from a previous appointment. • EMERGENCY = Emergency appointment.	O

Field	Name	Type	Length	Comments	Req'd ^a
SCH.08	Appointment Type	CE	200	Contains the identifier code for the type of appointment. Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> The following identifier codes are valid: • NORMAL = Routine schedule request type - default if not valued. • TENTATIVE = A request for a tentative (for example, “penciled in”) appointment. • COMPLETE = A request to add a completed appointment, used to maintain records of completed appointments that did not appear in the schedule (for example, STAT, walk-in, etc.). The appointment type is not displayed in Care360 Labs & Meds.	O
SCH.09	Appointment Duration	NM	20		O
SCH.10	Appointment Duration Units	CE	200		O
SCH.11	Appointment Timing Quantity	TQ	200	Contains the scheduled appointment’s timing and quantity, as scheduled by the filler application.	R
SCH.12	Placer Contact Person	XCN	48	Identifies the person responsible for requesting the scheduling of a requested appointment. Most often, this person will be the same person responsible for executing the appointment.	O
SCH.13	Placer Contact Phone Number	XTN	40		O
SCH.14	Placer Contact Address	XAD	106		O
SCH.15	Placer Contact Location	PL	80		O
SCH.16	Filler Contact Person	XCN	48	Identifies the person responsible for the scheduling of the requested appointment. Most often, this person will be the same person responsible for maintaining the schedule and for reviewing appointment requests.	R

Field	Name	Type	Length	Comments	Req'd ^a
SCH.17	Filler Contact Phone Number	XTN	40		O
SCH.18	Filler Contact Address	XAD	106		O
SCH.19	Filler Contact Location	PL	80		O
SCH.20	Entered by Person	XCN	48	Identifies the person responsible for entering the request for the scheduling of an appointment. It is included to provide an audit trail of persons responsible for the request. This person may be someone other than the placer contact person, who is responsible for entering orders and requests.	R
SCH.21	Entered by Phone Number	XTN	40		O
SCH.22	Entered by Location	PL	80		O
SCH.23	Parent Placer Appointment ID	EI	75		O
SCH.24	Parent Filler Appointment ID	EI	75		O
SCH.25	Filler Status Code	CE	200	Contains a code describing the status of the appointment with respect to the filler application. Valid values: • Pending • Waitlist • Booked • Started • Complete • Cancelled • Deleted • Blocked • Overbook If this field is populated, the Hub validates it for one of the above values. Note, however, that Care360 does not currently use this appointment status.	O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PID—Patient Identification Segment

The Patient Identification (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Field	Name	Type	Length	Comments	Req'd ^a
PID.00	Segment Type ID	ST	4	Must be PID .	R
PID.01	Set ID - Patient ID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1.	O
PID.02	Patient ID	CX	40	Care360 patient identifier used to uniquely identify a patient within Care360. When the patient is from another institution, outside office, etc., the identifier used by that institution can be shown in this field. This may be a number that multiple disparate corporations or facilities share. Example: BB1123	R
PID.03	Patient ID	CX	40	The primary identifier, or other identifiers used by the facility to identify a patient uniquely (for example, medical record number, billing number, birth registry, etc.). This is the patient identifier associated with the non-Care360 system and it is not always available within Care360.	O
PID.04	Alternate Patient ID (PID)	CX	20		NS
PID.05	Patient Name	XP	48	No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only. The Hub verifies that the field length complies with rules above.	R
PID.06	Mother's Maiden Name	XP	48	Patient's mother's maiden name. Only the first subfield (Family Name) is passed to Care360 Labs & Meds.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.07	Date/Time of Birth	TS	26	Date of birth (DOB). Format: YYYYMMDDHHMMSS The Hub verifies that the DOB is in this format.	O
PID.08	Sex	IS	1	Possible values are listed below. • M = Male • F = Female • O = Other • U = Unknown • A = Ambiguous • N = Not applicable • Z = Undifferentiated • blank Note: If Care360 Labs & Meds does not support a value that is submitted on inbound feeds, that value appears as a blank in the user interface.	O
PID.09	Patient Alias	XPN	48	Patient alias name. Only the first five subfields (Family Name, Given Name, Middle Name or Initial, Suffix, Prefix, and Degree) are passed to Care360 Labs & Meds.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.10	Race	CE	250	Repeating field with a maximum of three instances allowed. For HL7 v2.3, values supported by Care360 Labs & Meds are listed below. • W = White • B = Black • A = Asian • I = American Indian or Alaskan • O = Other For HL7 v3.0, values supported by Care360 Labs & Meds are the same as the Centers for Disease Control and Prevention (CDC) race code set (http://phinvads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.1.13883.6.238&code=1000-9) with a Concept Status Date of 09/26/2008. Because this is a repeating field, for a patient whose race is Apache (1010-8), White (2106-3), and Asian (2028-9), for example, you would send all three of the codes: 1010-8^2106-3^2028-9 If a value other than one of those in the CDC race code set is sent, the patient's race will not appear in the Care360 Labs & Meds user interface.	O
PID.11	Patient Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only. This field is verified.	O
PID.12	County Code	IS	4		NS

Field	Name	Type	Length	Comments	Req'd ^a
PID.13	Phone Number - Home	XTN	40	Repeating field that can accept Home phone number, Cell/Mobile phone number, and email address. Note the following: • If the Home phone number is sent, it must be the first occurrence. • If the Cell/Mobile phone number is sent, then <telecommunication equipment type (ID)> must equal CP. • If there is a Cell/Mobile phone number but no primary Home phone number, the first sequence must be blank (~). • The accepted length for each phone number is 20 numeric characters. No dashes or other separating characters are allowed. Example with home and cell phone (extension and country code omitted) and email: <code>^^^^333^4445555~^NET^^ example@email.com~^^CP^^77 7^8889999</code> Example with home and cell phone (including country code): <code>^^^^1^333^4445555^~ ^^CP^^1^777^8889999^</code> The Hub verifies that the value complies with rules above.	O
PID.14	Phone Number - Business	XTN	40	Accepted length of this field is 40 numeric characters. No dashes or other separating characters. Example with extension (country code omitted): <code>^^^^333^4445555^999^</code> Example with extension and country code: <code>^^^^1^333^4445555^999^</code>	O
PID.15	Language - Patient	CE	250	Values supported by Care360 Labs & Meds are listed in “Patient Language (PID.15)” on page 180. This field uses the HL7 v3.0 field length of 250 rather than the HL7 v2.3 field length of 60. If a value other than those listed is sent, the patient’s language will not appear in the Care360 Labs & Meds user interface.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.16	Marital Status	IS	1	Values supported by Care360 Labs & Meds are listed below. • P = Polygamous • W = Widowed • D = Divorced • M = Married • A = Annulled • S = Never Married • L = Legally Separated • I = Interlocutory • T = Domestic Partner If a value other than those listed is sent, the patient's marital status will not appear in the Care360 Labs & Meds user interface.	O
PID.17	Religion	IS	3	Patient religion	O
PID.18	Patient Account Number	CX	20	Contains the patient account number assigned by accounting and to which all charges, payments, etc., are recorded. It is used to identify the patient's account. Only the first subfield (ID Number) is passed to Care360 Labs & Meds.	O
PID.19	SSN Number - Patient	ST	16	Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900. If present, the Hub verifies that the value complies with rules above.	O
PID.20	Driver's Lic Num - Patient	DLN	25	DLN format: <pre><license number (ST)> ^ <issuing state, province, country (IS)> ^ <expiration date (DT)></pre> Only the first subfield (License Number) is passed to Care360 Labs & Meds.	O
PID.21	Mother's Identifier	CX	20	Used, for example, as a link field for newborns. Typically a patient ID or account number may be used. This field can contain multiple identifiers for the same mother. Only the first subfield (ID Number) is passed to Care360 Labs & Meds.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.22	Ethnic Group	CE	250	For HL7 v2.3, values supported by Care360 Labs & Meds are listed below. • H = Hispanic • N = Non-Hispanic • U = Unknown For HL7 v3.0, values supported by Care360 Labs & Meds are the same as the Centers for Disease Control and Prevention (CDC) ethnicity code set (http://phinivads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.1.13883.6.238&code=2133-7) with a Concept Status Date of 09/26/2008. For example, for Mexican American, you would send ^2149-3. If a value other than those in the CDC ethnicity code set is sent, the patient's ethnicity will not appear in the Care360 Labs & Meds user interface.	O
PID.23	Birth Place	ST	60	Indicates the location of the patient's birth.	O
PID.24	Multiple Birth Indicator	ID	2	Indicates whether or not the patient was part of a multiple birth (Yes/No indicator). Valid values: • Y = Yes • N = No • blank The Hub validates this field.	O
PID.25	Birth Order	NM	2	When a patient was part of a multiple birth, a number indicating the patient's birth order is entered in this field.	O
PID.26	Citizenship	IS	4	Contains the patient's country of citizenship.	O
PID.27	Veterans Military Status	CE	60	Contains the military status assigned to a veteran. Only the first subfield (Identifier) is passed to Care360 Labs & Meds.	O
PID.28	Nationality	CD	80	Contains a code that identifies the nation or national grouping to which the insured person belongs. This information may be different from a person's citizenship in countries in which multiple nationalities are recognized (for example, Spain: Basque, Catalan, etc.). Only the first subfield (Identifier) is passed to Care360 Labs & Meds.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.29	Patient Death Date & Time	TS	26	Contains the date and time at which the patient death occurred.	O
PID.30	Patient Death Indicator	ID	1	Indicates whether or not the patient is deceased (Yes/No indicator). Valid values: • Y = Yes • N = No • blank The Hub validates this field.	O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PV1—Patient Visit Data Segment

The Patient Visit Data (PV1) segment is used by registration/patient administration applications to communicate information on a visit-specific basis. This segment can be used to send multiple-visit statistic records to the same patient account, or single-visit records to more than one account.

Field	Name	Type	Length	Comments	Req'd ^a
PV1.00	Segment Type ID	ST	4	Must be PV1 .	R
PV1.01	Set ID - PV1	SI	4	This field is used to number PV1 message segments sequentially starting with 1.	O
PV1.02	Patient Class	IS	1	Examples of valid values: • E = Emergency • I = Inpatient • O = Outpatient	R
PV1.03	Assigned Patient Location	PL	80		NS
PV1.04	Admission Type	IS	2		NS
PV1.05	Preadmit Number	CX	20		NS
PV1.06	Prior Patient Location	PL	80		NS
PV1.07	Attending Doctor	XCN	60		NS
PV1.08	Referring Doctor	XCN	60		NS
PV1.09	Consulting Doctor	XCN	60		NS
PV1.10	Hospital Service	IS	3		NS
PV1.11	Temporary Location	PL	80		NS
PV1.12	Preadmit Test Indicator	IS	2		NS

Field	Name	Type	Length	Comments	Req'd ^a
PV1.13	Readmission Indicator	IS	2		NS
PV1.14	Admit Source	IS	3		NS
PV1.15	Ambulatory Status	IS	2		NS
PV1.16	VIP Indicator	IS	2		NS
PV1.17	Admitting Doctor	XCN	60		NS
PV1.18	Patient Type	IS	2		NS
PV1.19	Visit Number	CX	20		NS
PV1.20	Financial Class	FC	50		NS
PV1.21	Charge Price Indicator	IS	2		NS
PV1.22	Courtesy Code	IS	2		NS
PV1.23	Credit Rating	IS	2		NS
PV1.24	Contract Code	IS	2		NS
PV1.25	Contract Effective Date	DT	8		NS
PV1.26	Contract Amount	NM	12		NS
PV1.27	Contract Period	NM	3		NS
PV1.28	Interest Code	IS	2		NS
PV1.29	Transfer to Bad Debt Code	IS	1		NS
PV1.30	Transfer to Bad Debt Date	DT	8		NS
PV1.31	Bad Debt Agency Code	IS	10		NS
PV1.32	Bad Debt Transfer Amount	NM	12		NS
PV1.33	Bad Debt Recovery Amount	NM	12		NS
PV1.34	Delete Account Indicator	IS	1		NS
PV1.35	Delete Account Date	DT	8		NS
PV1.36	Discharge Disposition	IS	3		NS

Field	Name	Type	Length	Comments	Req'd ^a
PV1.37	Discharged to Location	CM	25		NS
PV1.38	Diet Type	IS	2		NS
PV1.39	Servicing Facility	IS	2		NS
PV1.40	Bed Status	IS	1		NS
PV1.41	Account Status	IS	2		NS
PV1.42	Pending Location	PL	80		NS
PV1.43	Prior Temporary Location	PL	80		NS
PV1.44	Admit Date/Time	TS	26		NS
PV1.45	Discharge Date/Time	TS	26		NS
PV1.46	Current Patient Balance	NM	12		NS
PV1.47	Total Charges	NM	12		NS
PV1.48	Total Adjustments	NM	12		NS
PV1.49	Total Payments	NM	12		NS
PV1.50	Alternate Visit ID	CX	20		NS
PV1.51	Visit Indicator	IS	1		NS
PV1.52	Other Healthcare Provider	XCN	60		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

DG1—Diagnosis Segment

The Diagnosis (DG1) segment contains patient diagnosis information.

Field	Name	Type	Length	Comments	Req'd ^a
DG1.00	Segment Type ID	ST	4	Must be DG1 .	R
DG1.01	Set ID - Patient ID	SI	4	Used to number DG1 message segments sequentially beginning with 1.	R
DG1.02	Diagnosis Coding Method	ID	2		R

Field	Name	Type	Length	Comments	Req'd ^a
DG1.03	Diagnosis Code	CE	60	Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> sub-field1 = ICD-9 code sub-field3 = "I9"	O
DG1.04	Diagnosis Description	ST	40	Diagnosis name and description.	O
DG1.05	Diagnosis Date/Time	TS	26	Date/Time that the diagnosis was determined. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC).	O
DG1.06	Diagnosis Type	IS	2	Valid values: A = Admitting W = Working F = Final	R
DG1.07	Major Diagnostic Category	CE	60		O
DG1.08	Diagnostic Related Group	CE	60		O
DG1.09	DRG Approval Indicator	ID	2		O
DG1.10	DRG Grouper Review Code	IS	2		O
DG1.11	Outlier Type	CE	60		O
DG1.12	Outlier Days	NM	3		O
DG1.13	Outlier Cost	CP	12		O
DG1.14	Grouper Version and Type	ST	4		O
DG1.15	Diagnosis Priority	NM	2		O
DG1.16	Diagnosing Clinician	XCN	60		O

Field	Name	Type	Length	Comments	Req'd ^a
DG1.17	Diagnosis Classification	IS	3	Valid values: C = Consultation D = Diagnosis M = Medication (antibiotic) O = Other R = Radiological scheduling (not using ICDA codes) S = Sign and symptom T = Tissue diagnosis I = Invasive procedure not classified elsewhere (I.V., catheter, etc.)	O
DG1.18	Confidential Indicator	ID	1		O
DG1.19	Attestation Date/Time	TS	26		O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

RGS—Resource Group Segment

The Resource Group (RGS) segment contains resource group information.

Field	Name	Type	Length	Comments	Req'd ^a
RGS.00	Segment Type ID	ST	4	Must be RGS .	R
RGS.01	Set ID - RGS	SI	4		R
RGS.02	Segment Action Code	ID	3	Contains the action to be taken when updating or modifying information in this segment from previously sent interface transactions. This field is conditionally required for all updating or modifying trigger events. Valid values: • A = Add/Insert • D = Delete • U = Update	C
RGS.03	Resource Group ID	CE	200	Contains an identifier code describing the group of resources following this RGS segment.	O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

AIS—Appointment Information-Services Segment

The Appointment Information–Services (AIS) segment contains information about various kinds of services that can be scheduled. Services included in a transaction using this segment are assumed to be controlled by a schedule on a schedule filler application. Services not controlled by a schedule are not identified on a schedule request using this segment.

Note: This segments is not used by Care360 Labs & Meds.

Field	Name	Type	Length	Comments	Req'd ^a
AIS.00	Segment Type ID	ST	4	Must be AIS .	R
AIS.01	Set ID - AIS	SI	4		R
AIS.02	Segment Action Code	ID	3		C
AIS.03	Universal Service Identifier	CE	200		R
AIS.04	Start Date/Time	TS	26		C
AIS.05	Start Date/Time Offset	NM	20		C
AIS.06	Start Date/Time Units	CE	200		C
AIS.07	Duration	NM	20		O
AIS.08	Duration Units	CE	200		O
AIS.09	Allow Substitution Code	IS	10		C
AIS.10	Filler Status Code	CE	200		C

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

AIG—Appointment Information-General Resources Segment

The Appointment Information–General Resources (AIG) segment contains information about various kinds of resources (other than those with specifically defined segments in this chapter) that can be scheduled. Resources included in a transaction using this segment are assumed to be controlled by a schedule on a schedule filler application. Resources not controlled by a schedule are not identified on a schedule request using this segment. Resources described by this segment are general kinds of resources, such as equipment, that are identified with a simple identification code.

Note: This segments is not used by Care360 Labs & Meds.

Field	Name	Type	Length	Comments	Req'd ^a
AIG.00	Segment Type ID	ST	4	Must be AIG .	R
AIG.01	Set ID - AIG	SI	4		R

Field	Name	Type	Length	Comments	Req'd ^a
AIG.02	Segment Action Code	ID	3		C
AIG.03	Resource ID	CE	200		C
AIG.04	Resource Type	CE	200		R
AIG.05	Resource Group	CE	200		O
AIG.06	Resource Quantity	NM	5		O
AIG.07	Resource Quantity Units	CE	200		O
AIG.08	Start Date/Time	TS	26		C
AIG.09	Start Date/Time Offset	NM	20		C
AIG.10	Start Date/Time Offset Units	CE	200		C
AIG.11	Duration	NM	20		O
AIG.12	Duration Units	CE	200		O
AIG.13	Allow Substitution Code	IS	10		C
AIG.14	Filler Status Code	CE	200		C

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

AIL—Appointment Information-Location Segment

The Appointment Information–Location (AIL) segment contains information about location resources (meeting rooms, operating rooms, examination rooms, or other locations) that can be scheduled. Resources included in a transaction using this segment are assumed to be controlled by a schedule on a schedule filler application. Resources not controlled by a schedule are not identified on a schedule request using this segment. Location resources are identified with this specific segment because of the specific encoding of locations used by the HL7 specification.

Note: This segments is not used by Care360 Labs & Meds.

Field	Name	Type	Length	Comments	Req'd ^a
AIL.00	Segment Type ID	ST	4	Must be AIL .	R
AIL.01	Set ID - AIL	SI	4		R
AIL.02	Segment Action Code	ID	1		C
AIL.03	Location Resource ID	PL	80		C

Field	Name	Type	Length	Comments	Req'd ^a
AIL.04	Location Type	CE	200		R
AIL.05	Location Group	CE	200		NS
AIL.06	Start Date/Time	TS	26		C
AIL.07	Start Date/Time Offset	NM	20		C
AIL.08	Start Date/Time Offset Units	CE	200		C
AIL.09	Duration	NM	20		NS
AIL.10	Duration Units	CE	200		NS
AIL.11	Allow Substitution Code	IS	10		C
AIL.12	Filler Status Code	CE	200		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

AIP—Appointment Information–Personnel Resource Segment

The Appointment Information–Personnel Resource (AIP) segment contains information about the personnel types that can be scheduled. Personnel included in a transaction using this segment are assumed to be controlled by a schedule on a schedule filler application. Personnel not controlled by a schedule are not identified on a schedule request using this segment. The types of personnel described on this segment include any healthcare provider in the institution controlled by a schedule (for example: technicians, physicians, nurses, surgeons, anesthesiologists, or CRNAs).

Field	Name	Type	Length	Comments	Req'd ^a
AIP.00	Segment Type ID	ST	4	Must be AIP .	R
AIP.01	Set ID - AIP	SI	4		R
AIP.02	Segment Action Code	ID	1		C

Field	Name	Type	Length	Comments	Req'd ^a
AIP.03	Personnel Resource ID	XCN	80	Contains the ID number and name of the person being requested or scheduled for an appointment. Identifies a specific person being requested, or a specific person who has been scheduled as a resource for an appointment. If the specific person is not known but the type of resource is, AIP.04 (Resource Role) is used to identify the type of personnel resource required or scheduled. Format: <ID number (ST)> ^ <family name (ST)> ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (e.g., JR or III) (ST)> ^ <prefix (e.g., DR) (ST)> ^ <degree (e.g., MD) (ST)> ^ <source table (IS)> ^ <assigning authority (HD)> ^ <name type (ID)> ^ <identifier check digit (ST)> ^ <code identifying the check digit scheme employed (ID)> ^ <identifier type code (IS)> ^ <assigning facility ID (HD)> Subcomponents of assigning authority: <namespace ID (IS)> & <universal ID (ST)> & <universal ID type (ID)> Subcomponents of assigning facility ID: <namespace ID (IS)> & <universal ID (ST)> & <universal ID type (ID)> Notes: • This field is required if the AIP segment is present. • Valid values for source table: NPI, UPIN.	R

Field	Name	Type	Length	Comments	Req'd ^a
AIP.04	Resource Role	CE	200	Identifies the role of the personnel requested/scheduled for an appointment. For requests, if a specific person is not identified in the AIP.03 personnel resource ID field, then this field identifies the type of person that should be scheduled by the filler application. At a minimum, the AIP.04 (Resource Role) role identifier component should be valued. Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)>	R
AIP.05	Resource Group	CE	200	Identifies the requested resource as a member of the indicated group. If, in a Schedule Request Message (SRM), no specific resource is requested, but an AIP.04 (Resource Role) is requested, AIP.05 can be used to further qualify the type of resource being requested.	O
AIP.06	Start Date/Time	TS	26		C
AIP.07	Start Date/Time Offset	NM	20		C
AIP.08	Start Date/Time Offset Units	CE	200		C
AIP.09	Duration	NM	20		O
AIP.10	Duration Units	CE	200		C
AIP.11	Allow Substitution Code	IS	10		C
AIP.12	Filler Status Code	CE	200		C

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

DFT^P03 (Detail Financial Transaction) Message Segment Specifications

The Detail Financial Transaction (DFT) message describes a financial transaction transmitted between systems, allowing Care360 Labs & Meds to send billing information to a vendor practice management system (PMS) in provider offices. This eliminates the need for the billing data to be entered manually into the PMS. If no PMS is available, the provider office can still electronically capture the billing details and view these details in Care360 Labs & Meds.

The DFT message is outbound only (Care360 Labs & Meds to partner application). The following message is supported:

P03 - Post detail final transaction

Note: All date timestamps are set to Coordinated Universal Time (UTC).

For a sample message, see “[Sample 6—Detail Financial Transaction](#)” on page 179.

Message Segment Hierarchy

The DFT^P03 message submitted from Care360 Labs & Meds will follow the message segment hierarchy specified below:

MSH	Message Header (<i>Required</i> ; one per file)
EVN	Event Type (<i>Required</i>)
PID	Patient Identification (<i>Required</i> ; one per file)
[PD1]	Additional Demographics (<i>Optional</i>)
[PV1]	Patient Visit (<i>Optional</i>)
[PV2]	Patient Visit - Additional Info (<i>Optional</i> ; not used)
[{DB1}]	Disability Information (<i>Optional</i> ; not used)
[{OBX}]	Observation/Result (<i>Optional</i> ; not used)
{FT1}	Financial Transaction (<i>Required</i> ; multiple allowed. One FT1 segment is created for each procedure code.)
[{PR1	Procedure (<i>Optional</i> ; multiple allowed, one per procedure code)
[{ROL}]	Role (<i>Optional</i> ; not used)
}]	
[{DG1}]	Diagnosis (<i>Optional</i> ; multiple allowed)
[DRG]	Diagnosis Related Group (<i>Optional</i> ; not used)
[{GT1}]	Guarantor (<i>Optional</i> ; multiple allowed)
[	
{	
IN1	Insurance (<i>Optional</i> ; multiple allowed)
[IN2]	Insurance-Additional Info. (<i>Optional</i> ; not used)
[IN3]	Insurance-Additional Info.-Cert. (<i>Optional</i> ; not used)
}	
]	
[ACC]	Accident Information (<i>Optional</i> ; not used)

Note: If no procedure codes are available in the billing data, Care360 Labs & Meds submits the DFT message as follows:

- Only one FT1 (Financial Transaction) segment is created, and FT1.25 (Procedure Code) is blank.
- No PR1 (Procedure) segment is created.

In the hierarchy shown above, braces (**{ }**) indicate where multiple items are allowed, and brackets (**[]**) indicate items that are optional.

Message Segment Specifications

This section provides detailed specifications for each segment of the DFT^P03 message that can be submitted by Care360 Labs & Meds. Supported message segments include the following:

- “MSH—Message Header Segment” on page 152.
- “EVN—Event Type Segment” on page 154.
- “PID—Patient Identification Segment” on page 154.
- “PD1—Patient Additional Demographic Segment” on page 160.
- “PV1—Patient Visit Data Segment” on page 161.
- “FT1—Financial Transaction Segment” on page 164.
- “PR1—Procedure Segment” on page 168.
- “DG1—Diagnosis Segment” on page 169.
- “GT1—Guarantor Segment” on page 171.
- “IN1—Insurance Segment” on page 174.

Note: DFT^P03 message segments that are not submitted by Care360 Labs & Meds are *not* included in this section; for detailed specifications, refer to the HL7 2.3 Specification.

MSH—Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some specifics of the syntax of a message.

Field	Name	Type	Length	Comments	Req'd ^a
MSH.00	Segment Type ID	ST	4	Must be MSH .	R
MSH.01	Field Separator	ST	1	The separator between the message segment ID (“MSH”) and the first real data field (MSH.02). Defines the character to be used as a separator for the rest of the message. The value is a vertical bar ().	R
MSH.02	Encoding Characters	ST	4	Four characters that are used in the following order: component separator, repetition separator, escape character, and sub-component separator. Format: ^~\& These values are recommended by HL7 and are the only values supported .	R
MSH.03	Sending Application	HD	180	The name of the sending application.	O
MSH.04	Sending Facility	HD	180	The sending facility. This identifies the owner of the patient data and who initiated the request.	R
MSH.05	Receiving Application	HD	180	The receiving application identifier.	O

Field	Name	Type	Length	Comments	Req'd ^a
MSH.06	Receiving Facility	HD	180	The receiving facility. The account number defined for the requester.	R
MSH.07	Date/Time of Message	TS	26	The date and time that the sending system created the message. Hub Format: YYYYMMDDHHMMSS Care360 Labs & Meds Format: yyyy-mm-dd HHmmss Note: All date timestamps are set to Coordinated Universal Time (UTC).	R
MSH.08	Security	ST	40		NS
MSH.09	Message Type	CM	7	The type of message being transmitted, and the event leading to the creation of the message. Acceptable values for this field: DFT^P03	R
MSH.10	Message Control ID	ST	20	A number or other data that uniquely identifies the message in its transmission to the receiving system.	R
MSH.11	Processing ID	PT	3	The placer system's intent for the message. Valid values include: • P = Production • T = Testing	R
MSH.12	Version ID	ID	8	The value for this field is 2 . 3 .	R
MSH.13	Sequence Number	NM	15		NS
MSH.14	Continuation Pointer	ST	180		NS
MSH.15	Accept Acknowledgment Type	ID	2		NS
MSH.16	Application Acknowledgment Type	ID	2		NS
MSH.17	Country Code	ID	2		NS
MSH.18	Character Set	ID	6		NS
MSH.19	Principal Language of Message	CE	60		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

EVN—Event Type Segment

The Event Type (EVN) segment is used to communicate necessary trigger event information to receiving applications.

Field	Name	Type	Length	Comments	Req'd ^a
EVN.00	Segment Type ID	ST	4	Must be EVN .	R
EVN.01	Event Type Code	ID	3	Note: This field has been retained for backward compatibility only. The second component (trigger event) of MSH.09 (<i>Message Type</i>) will be used to transmit event type code information. This field contains the events corresponding to the trigger events described in this section. Valid value: P03	R
EVN.02	Recorded Date/Time	TS	26		NS
EVN.03	Date/Time Planned Event	TS	26		NS
EVN.04	Event Reason Code	IS	3		NS
EVN.05	Operator ID	XCN	60		NS
EVN.06	Event Occurred	TS	26		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PID—Patient Identification Segment

The Patient Identification (PID) segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

Field	Name	Type	Length	Comments	Req'd ^a
PID.00	Segment Type ID	ST	4	Must be PID .	R
PID.01	Set ID	SI	4	Allows identification of multiple PID segments within a message. Usually a sequential number beginning with 1.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.02	Patient ID	CX	40	Care360 patient identifier used to uniquely identify a patient within Care360. When the patient is from another institution, outside office, etc., the identifier used by that institution can be shown in this field. This may be a number that multiple disparate corporations or facilities share. Example: BB1123	R
PID.03	Patient ID	CX	40	The primary identifier, or other identifiers used by the facility to identify a patient uniquely (for example, medical record number, billing number, birth registry, etc.). This is the patient identifier associated with the non-Care360 system and it is not always available within Care360.	O
PID.04	Alternate Patient ID (PID)	CX	20		NS
PID.05	Patient Name	XP	48	No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name must be included. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only. The Hub verifies that the field length complies with rules above.	R
PID.06	Mother's Maiden Name	XP	48	Patient's mother's maiden name. Only the first subfield (Family Name) is passed from Care360 Labs & Meds.	O
PID.07	Date/Time of Birth	TS	26	Date of birth (DOB), in HL7 format: YYYYMMDDHHMMSS	O
PID.08	Sex	IS	1	Possible values are listed below. • M = Male • F = Female • O = Other • U = Unknown • A = Ambiguous • N = Not applicable • Z = Undifferentiated • blank	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.09	Patient Alias	XPN	48	Patient alias name. Only the first five subfields (Family Name, Given Name, Middle Name or Initial, Suffix, Prefix, and Degree) are passed from Care360 Labs & Meds.	O
PID.10	Race	CE	250	Repeating field with a maximum of three instances allowed. For HL7 v2.3, values supported by Care360 Labs & Meds are listed below. • W = White • B = Black • A = Asian • I = American Indian or Alaskan • O = Other For HL7 v3.0, values supported by Care360 Labs & Meds are the same as the Centers for Disease Control and Prevention (CDC) race code set (http://phinvads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.1.13883.6.238&code=1000-9) with a Concept Status Date of 09/26/2008. Example: Because this is a repeating field, a patient whose race is Apache (1010-8), White (2106-3), and Asian (2028-9), would be submitted as follows: 1010-8^2106-3^2028-9	O
PID.11	Patient Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only.	O
PID.12	County Code	IS	4		NS

Field	Name	Type	Length	Comments	Req'd ^a
PID.13	Phone Number - Home	XTN	40	Repeating field that can included Home phone number, Cell/Mobile phone number, and email address. Note the following: • If the Home phone number is sent, it will be the first occurrence. • If the Cell/Mobile phone number is sent, then <telecommunication equipment type (ID)> will equal CP. • If there is a Cell/Mobile phone number but no primary Home phone number, the first sequence will be blank (~). • The accepted length for each phone number is 20 numeric characters. No dashes or other separating characters are allowed. Example with home and cell phone (extension and country code omitted) and email: <code>^^^^333^4445555~^NET^ example@email.com~^CP^^77 7^8889999</code> Example with home and cell phone (including country code): <code>^^^^1^333^4445555~ ^^CP^^1^777^8889999^</code>	O
PID.14	Phone Number - Business	XTN	40	Length of this field is 20 numeric characters. No dashes or other separating characters. Example with extension (country code omitted): <code>^^^^333^4445555^999^</code> Example with extension and country code: <code>^^^^1^333^4445555^999^</code>	O
PID.15	Language - Patient	CE	250	Values supported by Care360 Labs & Meds are listed in “Patient Language (PID.15)” on page 180. This field uses the HL7 v3.0 field length of 250 rather than the HL7 v2.3 field length of 60.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.16	Marital Status	IS	1	Values supported by Care360 Labs & Meds are listed below. • P = Polygamous • W = Widowed • D = Divorced • M = Married • A = Annulled • S = Never Married • L = Legally Separated • I = Interlocutory • T = Domestic Partner	O
PID.17	Religion	IS	3	Patient religion	O
PID.18	Patient Account Number	CX	20	Contains the patient account number assigned by accounting and to which all charges, payments, etc., are recorded. It is used to identify the patient's account. Only the first subfield (ID Number) is passed from Care360 Labs & Meds.	O
PID.19	SSN Number - Patient	ST	16	Must contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900.	O
PID.20	Driver's Lic Num - Patient	DLN	25	DLN format: <license number (ST)> ^ <issuing state, province, country (IS)> ^ <expiration date (DT)> Only the first subfield (License Number) is passed from Care360 Labs & Meds.	O
PID.21	Mother's Identifier	CX	20	Used, for example, as a link field for newborns. Typically a patient ID or account number may be used. This field can contain multiple identifiers for the same mother. Only the first subfield (ID Number) is passed from Care360 Labs & Meds.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.22	Ethnic Group	CE	250	For HL7 v2.3, values supported by Care360 Labs & Meds are listed below. • H = Hispanic • N = Non-Hispanic • U = Unknown For HL7 v3.0, values supported by Care360 Labs & Meds are the same as the Centers for Disease Control and Prevention (CDC) ethnicity code set (http://phinivads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.1.13883.6.238&code=2133-7) with a Concept Status Date of 09/26/2008. For example, for Mexican American, you would send ^2149-3. If a value other than those in the CDC ethnicity code set is sent, the patient's ethnicity will not appear in the Care360 Labs & Meds user interface.	O
PID.23	Birth Place	ST	60	Indicates the location of the patient's birth.	O
PID.24	Multiple Birth Indicator	ID	2	Indicates whether or not the patient was part of a multiple birth (Yes/No indicator). Valid values: • Y = Yes • N = No • blank The Hub validates this field.	O
PID.25	Birth Order	NM	2	When a patient was part of a multiple birth, a number indicating the patient's birth order is entered in this field.	O
PID.26	Citizenship	IS	4	Contains the patient's country of citizenship.	O
PID.27	Veterans Military Status	CE	60	Contains the military status assigned to a veteran. Only the first subfield (Identifier) is passed from Care360 Labs & Meds.	O
PID.28	Nationality	CD	80	Contains a code that identifies the nation or national grouping to which the insured person belongs. This information may be different from a person's citizenship in countries in which multiple nationalities are recognized (for example, Spain: Basque, Catalan, etc.). Only the first subfield (Identifier) is passed from Care360 Labs & Meds.	O

Field	Name	Type	Length	Comments	Req'd ^a
PID.29	Patient Death Date & Time	TS	26	Contains the date and time at which the patient death occurred in HL7 Format: YYYYMMDDHHMMSS	O
PID.30	Patient Death Indicator	ID	1	Indicates whether or not the patient is deceased (Yes/No indicator). Valid values: • Y = Yes • N = No • blank The Hub validates this field.	O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PD1—Patient Additional Demographic Segment

The Patient Additional Demographic (PD1) segment contains demographic information that is likely to change about the patient.

Field	Name	Type	Length	Comments	Req'd ^a
PD1.01	Living Dependency	IS	2		O
PD1.02	Living Arrangement	IS	2		O
PD1.03	Patient Primary Facility	XON	90		O
PD1.04	Patient Primary Care Provider Name & ID No.	XON	90		O
PD1.05	Student Indicator	IS	2		O
PD1.06	Handicap	IS	2		O
PD1.07	Living Will	IS	2		O
PD1.08	Organ Donor	IS	2		O
PD1.09	Separate Bill	ID	2		O
PD1.10	Duplicate Patient	CX	2		O

Field	Name	Type	Length	Comments	Req'd ^a
PD1.11	Publicity Indicator	CE	1	Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> Valid outbound values: • Y = Yes • N = No • P = Pending • blank	O
PD1.12	Protection Indicator	ID	1	Valid outbound values: • Y = Yes • N = No • P = Pending • blank	O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PV1—Patient Visit Data Segment

The Patient Visit Data (PV1) segment is used by registration/patient administration applications to communicate information on a visit-specific basis. This segment can be used to send multiple-visit statistic records to the same patient account, or single-visit records to more than one account.

Field	Name	Type	Length	Comments	Req'd ^a
PV1.00	Segment Type ID	ST	4	Must be PV1 .	R
PV1.01	Set ID	SI	4	Will always be 1.	O
PV1.02	Patient Class	IS	1	Examples of valid values: • E = Emergency • I = Inpatient • O = Outpatient	R
PV1.03	Assigned Patient Location	PL	80		O
PV1.04	Admission Type	IS	2		O
PV1.05	Preadmit Number	CX	20		O
PV1.06	Prior Patient Location	PL	80		O
PV1.07	Attending Doctor	XCN	60		O
PV1.08	Referring Doctor	XCN	60		O

Field	Name	Type	Length	Comments	Req'd ^a
PV1.09	Consulting Doctor	XCN	60		O
PV1.10	Hospital Service	IS	3		O
PV1.11	Temporary Location	PL	80		O
PV1.12	Preadmit Test Indicator	IS	2		O
PV1.13	Readmission Indicator	IS	2		O
PV1.14	Admit Source	IS	3		O
PV1.15	Ambulatory Status	IS	2		O
PV1.16	VIP Indicator	IS	2		O
PV1.17	Admitting Doctor	XCN	60		O
PV1.18	Patient Type	IS	2		O
PV1.19	Visit Number	CX	20	Format: <ID (ST)> ^ <check digit (ST)> ^ <code identifying the check digit scheme employed (ID)> ^ <assigning authority (HD)> ^ <identifier type code (IS)> ^ <assigning facility (HD)> Subfields sent by Care360 Labs & Meds: PV1.19.01 = Appointment ID PV1.19.04 = Appointment namespace	O
PV1.20	Financial Class	FC	50		NS
PV1.21	Charge Price Indicator	IS	2		NS
PV1.22	Courtesy Code	IS	2		NS
PV1.23	Credit Rating	IS	2		NS
PV1.24	Contract Code	IS	2		NS
PV1.25	Contract Effective Date	DT	8		NS
PV1.26	Contract Amount	NM	12		NS
PV1.27	Contract Period	NM	3		NS
PV1.28	Interest Code	IS	2		NS
PV1.29	Transfer to Bad Debt Code	IS	1		NS

Field	Name	Type	Length	Comments	Req'd ^a
PV1.30	Transfer to Bad Debt Date	DT	8		NS
PV1.31	Bad Debt Agency Code	IS	10		NS
PV1.32	Bad Debt Transfer Amount	NM	12		NS
PV1.33	Bad Debt Recovery Amount	NM	12		NS
PV1.34	Delete Account Indicator	IS	1		NS
PV1.35	Delete Account Date	DT	8		NS
PV1.36	Discharge Disposition	IS	3		NS
PV1.37	Discharged to Location	CM	25		NS
PV1.38	Diet Type	IS	2		NS
PV1.39	Servicing Facility	IS	2		NS
PV1.40	Bed Status	IS	1		NS
PV1.41	Account Status	IS	2		NS
PV1.42	Pending Location	PL	80		NS
PV1.43	Prior Temporary Location	PL	80		NS
PV1.44	Admit Date/Time	TS	26		NS
PV1.45	Discharge Date/Time	TS	26		NS
PV1.46	Current Patient Balance	NM	12		NS
PV1.47	Total Charges	NM	12		NS
PV1.48	Total Adjustments	NM	12		NS
PV1.49	Total Payments	NM	12		NS
PV1.50	Alternate Visit ID	CX	20		NS
PV1.51	Visit Indicator	IS	1		NS
PV1.52	Other Healthcare Provider	XCN	60		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

FT1—Financial Transaction Segment

The FT1 segment contains the detail data necessary to post charges, payments, adjustments, etc., to patient accounting records.

Field	Name	Type	Length	Comments	Req'd ^a
FT1.00	Segment Type ID	ST	4	Must be FT1 .	R
FT1.01	Set ID - FT1	SI	4	Contains the number that identifies this transaction. For the first occurrence of the segment the sequence number shall be 1, for the second occurrence it shall be 2, etc.	O
FT1.02	Transaction ID	ST	12		O
FT1.03	Transaction Batch ID	ST	10		O
FT1.04	Transaction Date	TS	26	Contains the date of the transaction per the Care360 Labs & Meds encounter note.	R
FT1.05	Transaction Posting Date	TS	26	Contains the date of the transaction that was sent to the financial system for posting.	O
FT1.06	Transaction Type	IS	8	Contains the code that identifies the type of transaction: • CG = Charge • CD = Credit • PY = Payment • AJ = Adjustment	R
FT1.07	Transaction Code	CE	80	Contains the ID assigned by Care360 Labs & Meds to this transaction (bill).	R
FT1.08	Transaction Description	ST	40		O
FT1.09	Transaction Description - Alt	ST	40		O
FT1.10	Transaction Quantity	NM	6	Contains the quantity of items associated with this transaction.	O
FT1.11	Transaction Amount - Extended	CP	12		O
FT1.12	Transaction Amount - Unit	CP	12		O
FT1.13	Department Code	CE	60		O
FT1.14	Insurance Plan ID	CE	60		O
FT1.15	Insurance Amount	CP	12		O

Field	Name	Type	Length	Comments	Req'd ^a
FT1.16	Assigned Patient Location	PL	80	Contains the current patient location. This can be the location of the patient when the charge item was ordered or when the charged service was rendered.	O
FT1.17	Fee Schedule	IS	1		O
FT1.18	Patient Type	IS	2		O
FT1.19	Diagnosis Code	CE	60	Contains the primary diagnosis code for billing purposes and is the most current diagnosis code that has been assigned to the patient. This is a repeating field that contains all of the diagnosis codes for the procedure code specified in FT1.25 (Procedure Code). ICD9-CM is assumed for all diagnosis codes, but ICD10 can also be used. Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> Subfields sent by Care360 Labs & Meds: FT1.19.01 = Diagnosis code FT1.19.02 = Diagnosis text FT1.19.03 = Coding system: I9	O

Field	Name	Type	Length	Comments	Req'd ^a
FT1.20	Performed By Code	XCN	120	Contains the composite number/ name of the person/group that performed the test/procedure/transaction, etc. Multiple names and identifiers for the same practitioner may be sent in this field, not multiple practitioners. The legal name is assumed to be in the first repetition. When the legal name is not sent, a repeat delimiter must be sent first for the first repetition. Format: <ID number (ST)> ^ <family name (ST)> ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (e.g., JR or III) (ST)> ^ <prefix (e.g., DR) (ST)> ^ <degree (e.g., MD) (ST)> ^ <source table (IS)> ^ <assigning authority (HD)> ^ <name type (ID)> ^ <identifier check digit (ST)> ^ <code identifying the check digit scheme employed (ID)> ^ <identifier type code (IS)> ^ <assigning facility ID (HD)>	O
FT1.21	Ordered By Code	XCN	120	Contains the composite number/name of the person/group that ordered the test/ procedure/transaction, etc. Multiple names and identifiers for the same practitioner may be sent in this field, not multiple practitioners. The legal name is assumed to be in the first repetition. When the legal name is not sent, a repeat delimiter must be sent first for the first repetition.	O
FT1.22	Unit Cost	CP	12		O
FT1.23	Filler Order Number	EI	22		O
FT1.24	Entered By Code	XCN	120		O

Field	Name	Type	Length	Comments	Req'd ^a
FT1.25	Procedure Code	CE	80	Contains a unique identifier assigned to the procedure, if any, associated with the charge. This field is a CE data type for compatibility with clinical and ancillary systems. Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> Subfields sent by Care360 Labs & Meds: FT1.25.01 = PC (Procedure Code) FT1.25.02 = PC description FT1.25.03 = PC coding system: CPT or HCPCS	O
FT1.26	Procedure Code Modifier	CE	80	When applicable, contains the procedure code modifier to the procedure code reported in FT1.25 (Procedure Code). Procedure code modifiers are defined by regulatory agencies such as Centers for Medicare and Medicaid Services (CMS) and the American Medical Association (AMA). Multiple modifiers may be reported. The modifiers are sequenced in priority according to user entry. This is a requirement of the Universal Bill (UB) and the 1500 claim forms. Multiple modifiers are allowed and the order placed on the form affects reimbursement. This is a repeating field with each instance delimited by ~ (tilde). Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> Subfields sent by Care360 Labs & Meds: FT1.26.01 = PMC (Procedure Modifier Code) FT1.26.02 = PMC description FT1.26.03 = PMC coding system: MOD Note: This is an HL7 2.4 field.	O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

PR1—Procedure Segment

The PR1 segment contains information relative to various types of procedures that can be performed on a patient. The PR1 segment is used to send multiple procedures, for example, for medical records encoding or for billing systems.

Field	Name	Type	Length	Comments	Req'd ^a
PR1.00	Segment Type ID	ST	4	Must be PR1 .	R
PR1.01	Set ID - PR1	SI	4	Contains the number that identifies this transaction. For the first occurrence of the segment the sequence number shall be 1, for the second occurrence it shall be 2, etc.	R
PR1.02	Procedure Coding Method	IS	2		NS
PR1.03	Procedure Code	CE	80	Used instead of PR1.02 and PR1.04 (which are retained for backward compatibility only) for a unique identifier assigned to the procedure. The value returned for the coding system will be either Current Procedural Terminology (CPT) or Healthcare Common Procedure Coding System (HCPCS). This is a repeating field with each instance delimited by ~ (tilde).	R
PR1.04	Procedure Description	ST	40		NS
PR1.05	Procedure Date/Time	TS	26	Contains the date/time that the procedure was performed per the Care360 Labs & Meds encounter note. Format: yyyy-MM-dd	R
PR1.06	Procedure Functional Type	IS	2	Note: Required in the HL7 standard but not in this Care360 specification.	NS
PR1.07	Procedure Minutes	NM	4		NS
PR1.08	Anesthesiologist	XCN	120		NS
PR1.09	Anesthesia Code	IS	2		NS
PR1.10	Anesthesia Minutes	NM	4		NS
PR1.11	Surgeon	XCN	120		NS
PR1.12	Procedure Practitioner	XCN	230		NS
PR1.13	Consent Code	CE	60		NS
PR1.14	Procedure Priority	NM	2		NS

Field	Name	Type	Length	Comments	Req'd ^a
PR1.15	Associated Diagnosis Code	CE	80	Contains the diagnosis that is the primary reason this procedure was performed. Note: This is a non-repeating field in HL7 2.3, but this Care360 specification uses the HL7 2.5.1 definition, which allows the field to repeat.	O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

DG1—Diagnosis Segment

The Diagnosis (DG1) segment contains patient diagnosis information.

Note: Diagnosis codes sent in the DG1 segment are diagnoses that were not associated with a specific procedure code.

Field	Name	Type	Length	Comments	Req'd ^a
DG1.00	Segment Type ID	ST	4	Must be DG1 .	R
DG1.01	Set ID - Patient ID	SI	4	Used to number DG1 message segments sequentially beginning with 1.	R
DG1.02	Diagnosis Coding Method	ID	2		O
DG1.03	Diagnosis Code	CE	60	Format: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> DG1.03.01 = ICD-9 code DG1.03.03 = "I9"	O
DG1.04	Diagnosis Description	ST	40	Diagnosis name and description.	O
DG1.05	Diagnosis Date/Time	TS	26	Date/Time that the diagnosis was determined. Format: YYYYMMDDHHMMSS Note: All date timestamps are set to Coordinated Universal Time (UTC).	O
DG1.06	Diagnosis Type	IS	2	Valid values: - A = Admitting - W = Working - F = Final	R
DG1.07	Major Diagnostic Category	CE	60		O

Field	Name	Type	Length	Comments	Req'd ^a
DG1.08	Diagnostic Related Group	CE	60		O
DG1.09	DRG Approval Indicator	ID	2		O
DG1.10	DRG Grouper Review Code	IS	2		O
DG1.11	Outlier Type	CE	60		O
DG1.12	Outlier Days	NM	3		O
DG1.13	Outlier Cost	CP	12		O
DG1.14	Grouper Version and Type	ST	4		O
DG1.15	Diagnosis Priority	NM	2		O
DG1.16	Diagnosing Clinician	XCN	60		O
DG1.17	Diagnosis Classification	IS	3	Valid values: • C = Consultation • D = Diagnosis • M = Medication (antibiotic) • O = Other • R = Radiological scheduling (not using ICDA codes) • S = Sign and symptom • T = Tissue diagnosis • I = Invasive procedure not classified elsewhere (I.V., catheter, etc.)	O
DG1.18	Confidential Indicator	ID	1	Valid values: • Y = Yes • N = No	O
DG1.19	Attestation Date/Time	TS	26		O

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

GT1—Guarantor Segment

The Guarantor (GT1) segment contains guarantor (for example, the person or the organization with financial responsibility for payment of a patient account) data for patient and insurance billing applications. This segment is applicable only for patient and insurance billing..

Note: If the guarantor name is blank in Care360 Labs & Meds, the GT1 segment is not created in outbound messages.

Field	Name	Type	Length	Comments	Req'd ^a
GT1.00	Segment Type ID	ST	4	Must be GT1 .	R
GT1.01	Set ID	SI	4	GT1 message segments should be numbered sequentially from 1.	R
GT1.02	Guarantor Number	CX	59		NS
GT1.03	Guarantor Name	XPN	48	No more than 48 characters wide, including the delimiter between the last and first names. At least one character for first and last name. A numeric value cannot be used as the first character of the last name. Family name 50 ^ given name 50 ^ middle name or init 1 ^ suffix 10 ^ prefix 10 ^ degree 10 ^ name type code ^ 6. Alphanumeric data only.	R
GT1.04	Guarantor Spouse Name	XPN	48		NS
GT1.05	Guarantor Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only.	O
GT1.06	Guarantor Ph Num-Home	XTN	40	Accepted length of this field is 20 numeric characters. No dashes or other separating characters. Example with country code and extension omitted: ^^^^^333^4445555 Example with country code: ^^^^1^333^4445555	O
GT1.07	Guarantor Ph Num-Business	XTN	40	Accepted length of this field is 20 numeric characters. No dashes or other separating characters. Example with country code omitted: ^^^^^333^4445555^999^ Example with country code: ^^^^1^333^4445555^999^	O
GT1.08	Guarantor Date/Time Of Birth	TS	26	The date and time of the guarantor's birth. Format: YYYYMMDDHHMMSS	O

Field	Name	Type	Length	Comments	Req'd ^a
GT1.09	Guarantor Sex	IS	1	Valid values for this field include: • M = Male • F = Female • blank	O
GT1.10	Guarantor Type	IS	2		NS
GT1.11	Guarantor Relationship	IS	2	Describes relations to patient. Valid values: • 1 = Self • 2 = Spouse • 8 = Dependent • blank	O
GT1.12	Guarantor SSN	ST	11	Will contain 9 numeric digits, or 11 with hyphens. Cannot be all zeros, and first three numbers cannot be 666, 800, or 900.	O
GT1.13	Guarantor Date - Begin	DT	8		NS
GT1.14	Guarantor Date - End	DT	8		NS
GT1.15	Guarantor Priority	NM	2		NS
GT1.16	Guarantor Employer Name	XPN	130	Employer name. No more than 130 characters wide. Alphanumeric data only.	O
GT1.17	Guarantor Employer Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only.	O
GT1.18	Guarantor Employer Phone Number	XTN	40		NS
GT1.19	Guarantor Employee ID Number	CX	20		NS
GT1.20	Guarantor Employment Status	IS	2		NS
GT1.21	Guarantor Organization Name	XON	130		NS
GT1.22	Guarantor Billing Hold Flag	ID	1		NS
GT1.23	Guarantor Credit Rating Code	CE	80		NS

Field	Name	Type	Length	Comments	Req'd ^a
GT1.24	Guarantor Death Date And Time	TS	26		NS
GT1.25	Guarantor Death Flag	ID	1		NS
GT1.26	Guarantor Charge Adjustment Code	CE	80		NS
GT1.27	Guarantor Household Annual Income	CP	10		NS
GT1.28	Guarantor Household Size	NM	3		NS
GT1.29	Guarantor Employer ID Number	CX	20		NS
GT1.30	Guarantor Marital Status Code	IS	1		NS
GT1.31	Guarantor Hire Effective Date	DT	8		NS
GT1.32	Employment Stop Date	DT	8		NS
GT1.33	Living Dependency	IS	2		NS
GT1.34	Ambulatory Status	IS	2		NS
GT1.35	Citizenship	IS	4		NS
GT1.36	Primary Language	CE	60		NS
GT1.37	Living Arrangement	IS	2		NS
GT1.38	Publicity Indicator	CE	80		NS
GT1.39	Protection Indicator	ID	1		NS
GT1.40	Student Indicator	IS	2		NS
GT1.41	Religion	IS	3		NS
GT1.42	Mother's Maiden Name	XPN	48		NS
GT1.43	Nationality	CE	80		NS
GT1.44	Ethnic Group	IS	3		NS
GT1.45	Contact Person's Name	XPN	48		NS

Field	Name	Type	Length	Comments	Req'd ^a
GT1.46	Contact Person's Telephone Number	XTN	40		NS
GT1.47	Contact Reason	CE	80		NS
GT1.48	Contact Relationship	IS	2		NS
GT1.49	Job Title	ST	20		NS
GT1.50	Job Code/Class	JCC	20		NS
GT1.51	Guarantor Employer's Organ. Name	XON	130		NS
GT1.52	Handicap	IS	2		NS
GT1.53	Job Status	IS	2		NS
GT1.54	Guarantor Financial Class	FC	50		NS
GT1.55	Guarantor Race	IS	1		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

IN1—Insurance Segment

The Insurance (IN1) segment contains insurance policy coverage information necessary to produce properly pro-rated and patient and insurance bills. This segment is applicable only for insurance billing.

Field	Name	Type	Length	Comments	Req'd ^a
IN1.00	Segment Type ID	ST	4	Must be IN1 .	R
IN1.01	Set ID	SI	4	IN1 message segments should be numbered sequentially from 1.	R
IN1.02	Insurance Plan ID	CE	50		R
IN1.03	Insurance Company ID	CX	59	QDI Bill mnemonic. Note: Required only if IN1.47 = T (Third-Party Bill).	C
IN1.04	Insurance Company Name	XON	130		O
IN1.05	Insurance Company Address	XAD	106	No more than 106 characters wide. Add1 50 ^ add2 50 ^ city 50 ^ state 2 ^ zip 10 ^ country code 3. Alphanumeric data only.	O
IN1.06	Insurance Co. Contact Person	XPN	48		NS

Field	Name	Type	Length	Comments	Req'd ^a
IN1.07	Insurance Co Phone Number	XTN	40		NS
IN1.08	Group Number	ST	50	Characters permitted include: A–Z and 0–9.	O
IN1.09	Group Name	XON	130		O
IN1.10	Insured's Group Emp ID	CX	12		NS
IN1.11	Insured's Group Emp Name	XON	130		NS
IN1.12	Plan Effective Date	DT	8		NS
IN1.13	Plan Expiration Date	DT	8		NS
IN1.14	Authorization Information	CM	55		NS
IN1.15	Plan Type	IS	3		NS
IN1.16	Name Of Insured	XPB	48		NS
IN1.17	Insured's Relationship To Patient	IS	2		NS
IN1.18	Insured's Date Of Birth	TS	26		NS
IN1.19	Insured's Address	XAD	106		NS
IN1.20	Assignment Of Benefits	IS	2		NS
IN1.21	Coordination Of Benefits	IS	2		NS
IN1.22	Coord Of Ben. Priority	ST	2		NS
IN1.23	Notice Of Admission Flag	ID	2		NS
IN1.24	Notice Of Admission Date	DT	8		NS
IN1.25	Report Of Eligibility Flag	ID	2		NS
IN1.26	Report Of Eligibility Date	DT	8		NS
IN1.27	Release Information Code	IS	2		NS

Field	Name	Type	Length	Comments	Req'd ^a
IN1.28	Pre-Admit Cert (PAC)	ST	15		NS
IN1.29	Verification Date/Time	TS	26		NS
IN1.30	Verification By	XCN	60		NS
IN1.31	Type Of Agreement Code	IS	2		NS
IN1.32	Billing Status	IS	2		NS
IN1.33	Lifetime Reserve Days	NM	4		NS
IN1.34	Delay Before L.R. Day	NM	4		NS
IN1.35	Company Plan Code	IS	8		NS
IN1.36	Policy Number	ST	50		O
IN1.37	Policy Deductible	CP	12		NS
IN1.38	Policy Limit - Amount	CP	12		NS
IN1.39	Policy Limit - Days	NM	4		NS
IN1.40	Room Rate - Semi-Private	CP	12		NS
IN1.41	Room Rate - Private	CP	12		NS
IN1.42	Insured's Employment Status	CE	60		NS
IN1.43	Insured's Sex	IS	1		NS
IN1.44	Insured's Employer Address	XAD	106		NS
IN1.45	Verification Status	ST	2		NS
IN1.46	Prior Insurance Plan ID	IS	8		NS
IN1.47	Coverage Type	IS	3	Valid values include: T = Third-party bill P = Patient bill C = Client bill	O

Field	Name	Type	Length	Comments	Req'd ^a
IN1.48	Handicap	IS	2		NS
IN1.49	Insured's ID Number	CX	12		NS

a. R = Required, O = Optional, C = Conditional, NS = Not Supported.

Sample Patient Demographic Messages

Following are several sample patient demographic messages, formatted according to the “[Patient Demographic Message Format Requirements](#)” on page 57 and the corresponding message segment specifications (Patient Add, Patient Delete, Patient Update, Patient Merge, Schedule Patient, or Detail Financial Transaction).

Sample 1—Add Patient

```
MSH|^~\&|sending_application|DemographicDemo||DemographicDemoOrg|
|20061211153336||A28|msgControlID123|P|2.3
EVN|A28|199608190820
PID|1|pid123|^^^LH||PATIENT_LASTNAME^PATIENT_FIRSTNAME^M||20000101153336|
U|ALIAS_LASTNAME^ALIAS_FIRSTNAME|2056-0~2056-0|4690 Parkway Dr.^Mason^
OH^45040^USA|a2|^CP^86^999^9999999^99999|^^^513^9999999^|
ENG^text^Census^EGL^alttext^Census2|M||1-FOUND|444669999|||2148-5^text^
Census^2149-3^alttext^Census
PV1|1|O
GT1|1|88|GUARANTOR_LASTNAME^GUARANTOR_FIRSTNAME^M^JR^DR^MD||1234 Emery
Road^^Cincinnati^OH^45010|^^^1^513^8888888^1234|
^^^1^238^4444444^5678|19960708112233|M|I|8|287889999|||ABC
Inc.^Limited^M|1234 Main Drive^^Oxford^OH^45068|55566677777|
4556|FT|Guarantor Organization
IN1|1|INSID123^Insurance Plan ABC|INSCOID123|insurancoco|1800 Insurance
Rd.^Detroit^MI^45777||^^^1^555^6667777^1234|3433|name|||19960707|||
||||||||||||||||||T
```

Sample 2—Delete Patient

```
MSH|^~\&|SecondSub|DemographicDemo||DemographicDemoOrg|20070321000000||
A29|1|P|2.3
EVN|A29|199608190820
PID|1|pid666|NEWMRN-2^^^LH||PATIENT_LASTNAME^PATIENT_FIRSTNAME^1^^DR|
|20000101000000|F|ALIAS_LASTNAME^ALIAS_FIRSTNAME||B|a2|^^^1^513^8888888^
9999|^^^1^520^6666666^7777|a5||X|1-FOUND
PV1|1|O
```

Sample 3—Update Patient

```
MSH|^~\&|sending_application|DemographicDemo||DemographicDemoOrg|
20061211153336||A31|msgControlID123|P|2.3
EVN|A31|199608190820
PID|1|pid123|^^^LH||PATIENT_LASTNAME^PATIENT_FIRSTNAME^M||20000101153336|
U|ALIAS_LASTNAME^ALIAS_FIRSTNAME|2056-0~2056-0|4690 Parkway Dr.^Mason^
OH^45040^USA|a2|^CP^86^999^9999999^99999|^^^513^9999999^|ENG^text^
Census^EGL^alttext^Census2|M||1-FOUND|444669999|||2148-5^text^Census^
2149-3^alttext^Census
PV1|1|O
GT1|1|88|GUARANTOR_LASTNAME^GUARANTOR_FIRSTNAME^M^JR^DR^MD||1234 Emery
Road^^Cincinnati^OH^45010|^^^1^513^8888888^1234|^^^1^238^4444444^5678|
19960708000000|M|I|8|444556666|||ABC Inc.^EFG^M|1234 Main Dr^^Oxford^
OH^45068|55566677777|4556|FT|organization
IN1|1|INSID123^Insurance Plan ABC|INSCOID123|insurancoco|1000 Insurance
Rd.^Detroit^MI^45777||^^^1^555^6667777^1234|3433|name|||19960707|||
||||||||||||||||||T
```

Sample 4—Merge Patient

```
MSH|^~\&|SecondSub|DemographicDemo||DemographicDemoOrg|20061211153336||  
A39|A39M|P|2.3  
EVN|A39|199608190820  
PID|1|ABC|NEWMRN-2||PATIENT_LASTNAME^PATIENT_FIRSTNAME^^Dr||20000101|F  
||4690 Parkway Dr.^Mason^OH^45040|a2|^^^1^226^1111111^2222|  
^^^1^222^5555555^6666||||287-87-8787  
MRG||||pid666||PRIOR_LASTNAME^PRIOR_FIRSTNAME^L  
PID|2||||19681121|M||1234 Emery Rd^^Mason^OH^45040|||||999-99-9999
```

Sample 5—Schedule Patient

```
MSH|^~\&||PD_ACCT||C360PD_PA1|20090624094442||SIU^S12|MSGID100|P|2.3  
SCH|APPID^1^2|FILL|1||ID^REASON|ROUTINE^TEXT|NORMAL^TEXT||^2011021909  
4442^20110219094442|PLACER^PERSON||ADDR1^ADDR2||CONTACT^PERSON|||  
ENTERED^FIRST^MIDDLE|||PENDING  
PID|1|pid123|^^LH||PATIENT_LASTNAME^PATIENT_FIRSTNAME^M||20000101153336|  
F|ALIAS_LASTNAME^ALIAS_FIRSTNAME||4690 Parkway Dr.^Mason^OH^45040^USA|  
a2|^^^86^999^9999999^99999|^^^513^9999998|a5||1-FOUND|444669999  
PV1|1|O|123^456^789|E|preadmit|pri/loc^bed^||1234pb^^^Dr^M.D^LastName^  
FirstName^M|Y|Y|ER|Y||1|^a|i19960706|77|Y|Y|Y||19960708|77|11|9|e199  
60708||77|7|19960708|06|home^1998|N|MA|C|I|pendloc||199709090800||77|77|  
77|77  
DG1|1||CODEID^DIAGCODE^I9|DESCIGNORED|20090219094442|A||||||ID123^  
CLINICIAN_LASTNAME^CLINICIAN_FIRSTNAME^J^JR^DR^MD|C|Y  
DG1|22||CODE222^DIAGCODE2^I9|DESCIGNORED2|20090119094442|A||||||ID456  
^CLINICIAN_LASTNAME^CLINICIAN_FIRSTNAME^J^DR^MD|M|N  
RGS|1|U|GRPID  
AIP|1|D|ID345^RESOURCE^FIRSTNAME^LASTNAME^^DR^MD^UPIN|ROLE|7
```

Sample 6—Detail Financial Transaction

```
MSH|^~\&||SENDING_FACILITY|RECEIVING_APPLICATION|RECEIVING_FACILITY  
|20110401142955||DFT^P03|127723|P|2.3  
EVN|P03  
PID|1|12365966191815042004||PATIENT_LASTNAME^PATIENT_FIRSTNAME^A  
PV1|1|N|||||||123  
FT1|1||20110207112233|20110401182956|CG|4007||1||||10||PC1DC1^PC1DC1  
Text^I9~PC1DC2^PC1DC2Text^I9|738492^PATIENT^NAME^^^NPI|738492^PATIENT^  
NAME^^^NPI|||PC1^PC1DESC^CPT|PC1M1^PC1M1DESC^MOD~PC1M2^PC1M2DESC^MOD  
PR1|1||PC1^PC1DESC^CPT|20110207112233|||||PC1DC1^PC1DC1Text^i9~PC1D  
C2^PC1DC2Text^I9  
FT1|2||20110207113344|20110401182956|CG|4007||1||||10||PC1DC1^PC1DC1  
Text^I9~PC1DC2^PC1DC2Text^I9|738492^PATIENT^NAME^^^NPI|738492^PATIENT^  
NAME^^^NPI|||PC1^PC1DESC^CPT|PC1M1^PC1M1DESC^MOD~PC1M2^PC1M2DESC^MOD  
PR1|2||PC2^PC1DESC^CPT|20110207113344|||||PC2DC1^PC2DC1Text^i9~PC1D  
C2^PC2DC2Text^I9
```

About Patient Demographic Reference Data

This section lists patient demographic data that is accepted by Care360 Labs & Meds and that is not available in total from other sources (such as the official HL7 web site, Centers for Disease Control and Prevention (CDC) web site, etc.).

This patient demographic data is used in “[ADT A28 \(Patient Add\) Message Segment Specifications](#)” on page 59 and “[ADT A31 \(Patient Update\) Message Segment Specifications](#)” on page 93.

For patient language (PID.15), Care360 Labs & Meds supports a subset of the ISO 639-2 languages. For more information, see “[Patient Language \(PID.15\)](#)” on page 180.

Patient Language (PID.15)

The patient languages supported by Care360 Labs & Meds are a subset of the ISO 639-2 languages provided by the Library of Congress (http://www.loc.gov/standards/iso639-2/php/code_list.php).

Send the ISO 639-2 code (not the full name) for the language. For example, for Japanese, you would send `jpn`.

ISO 639-2 Code	English Name
eng	English
spa	Spanish
ara	Arabic
chi	Chinese
fre	French
cpf	French Creole
ger	German
gre	Greek
hin	Hindi
ita	Italian
jpn	Japanese
kor	Korean
per	Persian
pol	Polish
por	Portuguese
rus	Russian
sgn	Sign Language
tgl	Tagalog

ISO 639-2 Code	English Name
urd	Urdu
vie	Vietnamese
abk	Abkhazian
ace	Achinese
ach	Acoli
ada	Adangme
ady	Adygei
aar	Afar
afr	Afrikaans
ain	Ainu
aka	Akan
alb	Albanian
gsw	Alemannic
ale	Aleut
amh	Amharic
anp	Angika
arg	Aragonese
arp	Arapaho

ISO 639-2 Code	English Name
arw	Arawak
arm	Armenian
rup	Aromanian
asm	Assamese
ava	Avaric
awa	Awadhi
aym	Aymara
aze	Azerbaijani
ast	Bable
ban	Balinese
bal	Baluchi
bam	Bambara
bas	Basa
bak	Bashkir
baq	Basque
bej	Beja
bel	Belarusian
bem	Bemba
ben	Bengali
bho	Bhojpuri
bik	Bikol
bis	Bislama
byn	Blin
nob	Bokmål, Norwegian
bos	Bosnian
bra	Braj
bre	Breton
bug	Buginese

ISO 639-2 Code	English Name
bua	Buriat
bur	Burmese
cad	Caddo
cat	Catalan
ceb	Cebuano
khm	Central Khmer
cha	Chamorro
che	Chechen
chr	Cherokee
chy	Cheyenne
nya	Chichewa
chn	Chinook jargon
cho	Choctaw
chk	Chuukese
chv	Chuvash
rar	Cook Islands Maori
cop	Coptic
cor	Cornish
cos	Corsican
cre	Cree
mus	Creek
crp	Creoles and pidgins
cpe	Creoles and pidgins, English-based
cpp	Creoles and pidgins, Portuguese-based
crh	Crimean Turkish
hrv	Croatian
cze	Czech
dak	Dakota

ISO 639-2 Code	English Name
bul	Bulgarian
del	Delaware
dar	Dargwa
chp	Dene Suline
din	Dinka
div	Divehi
doi	Dogri
dgr	Dogrib
dua	Duala
dut	Dutch
dyu	Dyula
dzo	Dzongkha
frs	Eastern Frisian
bin	Edo
efi	Efik
eka	Ekajuk
myv	Erzya
epo	Esperanto
est	Estonian
ewe	Ewe
ewo	Ewondo
fan	Fang
fat	Fanti
fao	Faroese
fij	Fijian
fil	Filipino
fin	Finnish
fon	Fon
fur	Friulian

ISO 639-2 Code	English Name
dan	Danish
gla	Gaelic
car	Galibi Carib
glg	Galician
lug	Ganda
gay	Gayo
gba	Gbaya
geo	Georgian
gil	Gilbertese
gon	Gondi
gor	Gorontalo
grb	Grebo
kal	Greenlandic
grn	Guarani
guj	Gujarati
gwi	Gwich'in
hai	Haida
hat	Haitian Creole
hau	Hausa
haw	Hawaiian
heb	Hebrew
her	Herero
hil	Hiligaynon
hmo	Hiri Motu
hmn	Hmong
hun	Hungarian
hup	Hupa
iba	Iban
ice	Icelandic

ISO 639-2 Code	English Name
ful	Fulah
gaa	Ga
smn	Inari Sami
ind	Indonesian
inh	Ingush
iku	Inuktitut
ipk	Inupiaq
gle	Irish
jav	Javanese
kac	Jingpho
jrb	Judeo-Arabic
jpr	Judeo-Persian
kbd	Kabardian
kab	Kabyle
xal	Kalmyk
kam	Kamba
kan	Kannada
kau	Kanuri
pam	Kapampangan
kaa	Kara-Kalpak
krc	Karachay-Balkar
krl	Karelian
kas	Kashmiri
csb	Kashubian
kaz	Kazakh
kha	Khasi
kik	Kikuyu
kmb	Kimbundu
kin	Kinyarwanda

ISO 639-2 Code	English Name
ibo	Igbo
ilo	Iloko
kos	Kosraean
kpe	Kpelle
kum	Kumyk
kur	Kurdish
kru	Kurukh
kut	Kutenai
kua	Kwanyama
kir	Kyrgyz
lad	Ladino
lah	Lahnda
lam	Lamba
lao	Lao
lav	Latvian
lez	Lezghian
lim	Limburgish
lin	Lingala
lit	Lithuanian
nds	Low German
dsb	Lower Sorbian
loz	Lozi
lub	Luba-Katanga
lua	Luba-Lulua
lui	Luiseno
smj	Lule Sami
lun	Lunda
luo	Luo (Kenya and Tanzania)
lus	Lushai

ISO 639-2 Code	English Name
kom	Komi
kon	Kongo
kok	Konkani
mag	Magahi
mai	Maithili
mak	Makasar
mlg	Malagasy
may	Malay
mal	Malayalam
mlt	Maltese
mnc	Manchu
mdr	Mandar
man	Mandingo
mni	Manipuri
glv	Manx
mao	Maori
arn	Mapuche
mar	Marathi
chm	Mari
mah	Marshallese
mwr	Marwari
mas	Masai
men	Mende
mic	Micmac
min	Minangkabau
mwl	Mirandese
moh	Mohawk
mdf	Moksha
lol	Mongo

ISO 639-2 Code	English Name
ltz	Luxembourgish
mac	Macedonian
mad	Madurese
nav	Navajo
ndo	Ndonga
nap	Neapolitan
new	Nepal Bhasa
nep	Nepali
nia	Nias
niu	Niuean
nog	Nogai
nde	North Ndebele
frf	Northern Frisian
sme	Northern Sami
nso	Northern Sotho
nor	Norwegian
nno	Norwegian Nynorsk
iii	Nuosu
nym	Nyamwezi
nyn	Nyankole
nyo	Nyoro
nzi	Nzima
oji	Ojibwa
ori	Oriya
orm	Oromo
osa	Osage
oss	Ossetian
pau	Palauan
pag	Pangasinan

ISO 639-2 Code	English Name
mon	Mongolian
mos	Mossi
nqo	N'Ko
nau	Nauru
que	Quechua
raj	Rajasthani
rap	Rapanui
rum	Romanian
roh	Romansh
rom	Romany
run	Rundi
smo	Samoa
sad	Sandawe
sag	Sango
san	Sanskrit
sat	Santali
srd	Sardinian
sas	Sasak
sco	Scots
sel	Selkup
srp	Serbian
srr	Serer
shn	Shan
sna	Shona
scn	Sicilian
sid	Sidamo
bla	Siksika
snd	Sindhi
sin	Sinhala

ISO 639-2 Code	English Name
pap	Papiamentu
pus	Pashto
pon	Pohnpeian
pan	Punjabi
snk	Soninke
sot	Sotho, Southern
nbl	South Ndebele
alt	Southern Altai
sma	Southern Sami
srn	Sranan Tongo
suk	Sukuma
sun	Sundanese
sus	Susu
swa	Swahili
ssw	Swati
swe	Swedish
syr	Syriac
tah	Tahitian
tgk	Tajik
tmh	Tamashek
tam	Tamil
tat	Tatar
tel	Telugu
ter	Tereno
tet	Tetum
tha	Thai
tib	Tibetan
tig	Tigre
tir	Tigrinya

ISO 639-2 Code	English Name
sms	Skolt Sami
den	Slave (Athapaskan)
slo	Slovak
slv	Slovenian
som	Somali
tog	Tonga (Nyasa)
ton	Tonga (Tonga Islands)
tsi	Tsimshian
tso	Tsonga
tsn	Tswana
tum	Tumbuka
tur	Turkish
tuk	Turkmen
tlv	Tuvalu
tyv	Tuvinian
twi	Twi
udm	Udmurt
ukr	Ukrainian
umb	Umbundu
und	Undetermined
hsb	Upper Sorbian
uig	Uyghur
uzb	Uzbek
vai	Vai
ven	Venda

ISO 639-2 Code	English Name
tem	Timne
tiv	Tiv
tli	Tlingit
tpi	Tok Pisin
tkl	Tokelau
vot	Votic
wln	Walloon
war	Waray
was	Washo
wel	Welsh
fry	Western Frisian
wal	Wolaytta
wol	Wolof
xho	Xhosa
sah	Yakut
yao	Yao
yap	Yapese
yid	Yiddish
yor	Yoruba
zap	Zapotec
zza	Zazaki
zen	Zenaga
zha	Zhuang
zul	Zulu
zun	Zuni



Chapter 6

CCR Message Specification

.....

In This Chapter:

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- [CCR Message Specification](#) 189
- [Sample CCR Message](#) 200

About the CCR Message Specification

This chapter provides detailed format specifications for Prescription Order messages in Continuity of Care Record (CCR) format.

This chapter includes the following sections:

- **CCR message specifications.** The CCR Message Specification defines the intent, source, destination, and some specifics of the syntax of a message. The Hub translates the Rx Order Echo message into the standard CCR Prescription message format. For more information, see [“CCR Message Specification”](#) on page 189.
- **Sample CCR message.** The prescription order message is “Echoed” back to the Partner Application/EMRs in CCR format. For more information, see [“Sample CCR Message”](#) on page 200.

CCR Message Specification

The CCR Message Specification defines the intent, source, destination, and some specifics of the syntax of a message. The Hub translates the Rx Order Echo message into the standard CCR Prescription message format.

Note: The following table provides a **partial** list of the fields that are in the XSD. In general, if the field is in the XSD but not listed in the table below, that field is not used in Rx order echo message translation.

CCR Attributes and Data Objects	XML Tag	Comments	Req'd ^a
CCR Header		Care360 Labs & Meds will now only send one header at a time, but the CCR can support multiple headers (no limit).	
CCR Unique Identifier	<CCRDocumentObjectID>	Must be a unique Object ID to identify this specific instance of a CCR. Type: xs:string, should be a UUID or OID.	R
Language	<Language>	Set to English with type of xs:string.	R
Version	<Version>	Set to 1.0 (version of the CCR Implementation Guide used as reference to develop this scope). The Version element is defined as a xs:string type.	R
CCR Creations Date/Time	<Date Time>	Date/Time that the CCR record was created. Date format is: yyyy-mm-ddThh:mm:ss+00:00 The ExactDateTime element is defined as a xs:string type.	R
Patient	<Patient>	Identifies the patient (can be only one) per CCR. Should equal an <ActorObjectId> of xs:string type. Define as <Actors> for the patient object. Example: <Patient> <ActorID>0c3299677f00010104507926bfbd468</ActorID> </Patient>	R

CCR Attributes and Data Objects	XML Tag	Comments	Req'd ^a
From	<From>	Identifies who created the prescription. An Actor and its Role must be specified under From. Should equal an <ActorId> (xs:string) defined in <Actors> and <ActorRole> with the <Text>Primary Care Provider</Text> (xs:string). Example: <pre><From> <ActorLink> <ActorID>0c32996a7f00010104507926d8e440fc</ActorID> <ActorRole> <Text>Primary Care Provider</Text> </ActorRole> </ActorLink> </From></pre>	R
To		Not currently used.	NS
Purpose		Not currently used.	NS
Body	<Body>	Structural grouping element.	
Payers		Not currently used.	NS
Advanced Directives		Not currently used.	NS
Support		Not currently used.	NS
Functional Status		Not currently used.	NS
Problems		Not currently used.	NS
Family History		Not currently used.	NS
Social History		Not currently used.	NS
Alerts	<Alert>	Alerts are not currently being sent in this document.	NS
Medications	<Medication>	Structural grouping element.	O
	<CCRDataObjectID>	Must be a unique Object ID to identify this specific instance of a Medication for this CCR document. Type: xs:string, should be a UUID or OID.	R

CCR Attributes and Data Objects	XML Tag	Comments	Req'd ^a
Medications, <i>continued</i>	<DateTime>	Medication start date. <Type><Text>Start Date</Text></Type> Date format is: yyyy-mm-ddThh:mm:ss+00:00 The ExactDateTime element is defined as xs:string type. Example: <DateTime> <Type> <Text>StartDate</Text> </Type> <ExactDateTime> 2010-03-12T12:00:00+00:00 </ExactDateTime> </DateTime>	O
	<DateTime>	Medication stop date. Using the Date Issued field and the Days Supply, calculate the Stop Date by Date Issued + Days Supply. <Type><Text>Stop Date</Text></Type> Date format is: yyyy-mm-ddThh:mm:ss+00:00 The ExactDateTime element is defined as xs:string type. Example: <DateTime> <Type> <Text>StopDate</Text> </Type> <ExactDateTime> 2010-04-16T12:00:00+00:00 </ExactDateTime> </DateTime>	O
	<IDs>	Not currently used.	NS
	<Type>	Call to Multum database. If NDC is found in the medication tables, set to Medication. If NDC is found in the supply tables, set to Supply. The Type element is defined as xs:string type. Example: <Type> <Text>Medication</Text> </Type>	O
	<Status>	Always set to "Active". The Status element is defined as xs:string type. Example: <Status> <Text>Active</Text> </Status>	O

CCR Attributes and Data Objects	XML Tag	Comments	Req'd ^a
Medications, <i>continued</i>	<Source>	This is an Actor tag with the ActorID of the Physician Actor in the Actor section. The ActorID and ActorRole elements are all defined as xs:string type. Example: <pre><Source> <Actor> <ActorID> 0C329aef7f0001010450792624f1f5cd </ActorID> <ActorRole> <Text>Primary Care Provider</Text> </ActorRole> </Actor> </Source></pre>	R
	<CommentID>	Not currently used.	NS
	<Description>	Not currently used.	NS
	<Product>	Structural grouping element.	O
	<ProductName>	Call to Multim database to retrieve product name using NDC. The ProductName Text element and the Value and Coding System are all defined as xs:string types. Example: <pre><ProductName> <Text>fluocinolone topical</Text> Code> <Value>99220750917</Value> <CodingSystem>NDC</CodingSystem> /Code> </ProductName></pre>	R
	<Code>	The Code tag will have the <Value> set to the NDC DrugNumber and the <Coding> set to NDC as in the <ProductName> example above.	O
	<BrandName>	Call to Multim database to retrieve brand name using NDC. The BrandName Text element is defined as xs:string type. Example: <pre><BrandName> <Text>Synemol</Text> </BrandName></pre>	O

CCR Attributes and Data Objects	XML Tag	Comments	Req'd ^a
Medications, <i>continued</i>	<Manufacturer>	Call to Multum database to retrieve Manufacturer Name using NDC. The Manufacturer contains an ActorID which will correspond to an entry in the Actors section of the CCR. Example: <Manufacturer> <ActorID>0c329b267f00010104507926758f725e</ActorID> </Manufacturer>	O
	<Strength>	Call to Multum database to retrieve strength using NDC. The Strength element is defined as xs:string type. Example: <Strength> <Text>0.025%</Text> </Strength>	C
	<Form>	Call to Multum database to retrieve dose form using NDC. The Form element is defined as xs:string type. Example: <Form> <Text>cream</Text> </Form>	C
	<Concentration>	Not currently used.	NS
	<Size>	Not currently used.	NS
	<Quantity>	The amount of the medication to be given. The Quantity element is defined as xs:string type. Example: <Quantity> <Value>2</Value> </Quantity>	R

CCR Attributes and Data Objects	XML Tag	Comments	Req'd ^a
Medications, <i>continued</i>	<Directions>	The directions given by the physician on the order. The directions from Care360 Labs & Meds are placed in their entirety in the <Dose> XML tag. The <Frequency> XML tag is not used. Example: <pre> <Directions> <Direction> <Route> <Text>topical</Text> </Route> <Duration> <Description> <Text>35</Text> </Description> </Duration> </Direction> </Directions> </pre>	C
	<DoseIndicator>	Not currently used.	NS
	<DeliveryMethod>	Not currently used.	NS
	<Dose>	Contains the drug directions from Care360 Labs & Meds.	C
	<DoseCalculation>	Not currently used.	NS
	<Vehicle>	Not currently used.	NS
	<Route>	Call to Multim database to retrieve route using NDC. The Route element is defined as xs:string type. Example: <pre> <Route> <Text>topical</Text> </Route> </pre>	C
	<Site>	Not currently used.	NS
	<AdministrationTiming>	Not currently used.	NS
	<Frequency>	Not currently used.	NS
	<Interval>	Not currently used.	NS
	<Duration>	The duration is set as the Days Supply from the order. The Duration element is defined as xs:string type. Example: <pre> <Duration> <Description> <Text>35</Text> </Description> </Duration> </pre>	O

CCR Attributes and Data Objects	XML Tag	Comments	Req'd ^a
Medications, <i>continued</i>	<DoseRestrictions>	Not currently used.	NS
	<Indication>	Not currently used.	NS
	<StopIndicator>	Not currently used.	NS
	<DirectionSequencePosition>	Not currently used.	NS
	<MultipleDirectionModifier>	Not currently used.	NS
	<PatientInstructions>	Set to the Comments to the Pharmacist. The Patient Instructions element is defined as xs:string type.	O
	<FulfillmentInstructions>	Not currently used.	NS
	<Refill>	Set to the Refill Quantity from the order. The Refill element is defined as xs:string type. Example: <pre> <Refills> <Refill> <Quantity> <Value>1</Value> </Quantity> </Refill> </Refills> </pre>	O
	<SeriesNumber>	Not currently used.	NS
	<Consent>	Not currently used.	NS
	<Reaction>	Not currently used.	NS
	<FulfillmentHistory>	Not currently used.	NS
	<InternalCCRLink>	Not currently used.	NS
	<ReferenceID>	Not currently used.	NS
Medical Equipment	<MedicalEquipment>	Not currently used.	NS
Immunizations	<Immunizations>	Not currently used.	NS
Vital Signs	<VitalSigns>	Not currently used.	NS
Results	<Results>	Not currently used.	NS
Procedures	<Procedures>	Not currently used.	NS
Encounters	<Encounters>	Not currently used.	NS
Plan Of Care	<PlanOfCare>	Not currently used.	NS

CCR Attributes and Data Objects	XML Tag	Comments	Req'd ^a
Healthcare Providers	<HealthCareProviders>	Not currently used.	NS
CCR Footer			
Actors	<Actor>	Patient information structural grouping element.	R
	<ActorObjectID>	Must be a unique Object ID to identify this specific instance of an Actor for this CCR document. Type: xs:string, should be a UUID or OID.	R
	<Person>	Structural grouping element.	O
	<Name>	Structural grouping element.	O
	<BirthName>	Not currently used.	NS
	<AdditionalName>	Not currently used.	NS
	<CurrentName>	The Given, Family, Middle, Title, and Suffix are being set. The names are all defined as xs:string type. Example: <pre><CurrentName> <Given>Minnie</Given> <Family>Mouse</Family> </CurrentName></pre>	O
	<DisplayName>	Not currently used.	NS
	<DateOfBirth>	The DateOfBirth element is defined as xs:string type. DateOfBirth format is: yyyy-mm-dd Example: <pre><DateOfBirth> <ExactDateTime>1951-06-18 </ExactDateTime> </DateOfBirth></pre>	O
	<Gender>	Male, Female, Unknown The Gender element is defined as xs:string type. Example: <pre><Gender> <Text>Female</Text> </Gender></pre>	O
	<Organization>	Not currently used.	NS
	<InformationSystem>	Not currently used.	NS

CCR Attributes and Data Objects	XML Tag	Comments	Req'd ^a
Actors, <i>continued</i>	<IDs>	All patient IDs sent from Care360 Labs & Meds will be in the CCR. This information is sent over in the patientReferenceNumber field. Note: The social security number is sent as “Social Security Number” instead of “SSN” in <Type>. All other reference number qualifiers are the same as those sent from Care360 Labs & Meds. The <Text> tag contains the value “Social Security Number” or “MRN”. The <ID> tag will contain the actual value of the ID. The Type, ID, ActorID, and ActorRole are defined as xs:string type. The <ID> tag will contain the patientReferenceNumber that has a patientReferenceNbrQualifier or “SY” or “ZZ”. Each patientReferenceNumber sent from Care360 Labs & Meds is sent in a different <Ids> element. Example: <pre><Ids> <Type> <Text>Social Security Number</Text> </Type> <ID>123456789</ID> <Source> <Actor> <ActorID> 0C32996a7f00010104507926d8e440fc </ActorID> <ActorRole> <Text>Primary Care Provider </Text> </ActorRole> </Actor> </Source> </Ids></pre>	O
	<Relation>	Not currently used.	NS
	<Specialty>	Not currently used.	NS
	<Address>	All of the Address elements are defined as xs:string type. Example: <pre><Address> <Line1>1234 Mulberry Lane</Line1> <Line2>additional address</Line2> <City>Toledo</City> <State>OH</State> <PostalCode>54360</PostalCode> <Country>USA</Country> </Address></pre>	O

CCR Attributes and Data Objects	XML Tag	Comments	Req'd ^a
Actors, <i>continued</i>	<Telephone>	Can be more than one depending on what Care360 Labs & Meds sends. A separate telephone instance is created for each. The Value and Type elements are all defined as xs:string type. Example: <pre> <Telephone> <Value>1234567890</Value> <Type> <Text>Telephone</Text> </Type> </Telephone> <Telephone> <Value>1234567890</Value> <Type> <Text>Nighttime Phone</Text> </Type> </Telephone> <Telephone> <Value>1234567890</Value> <Type> <Text>Work Phone</Text> </Type> </Telephone> <Telephone> <Value>1234567890</Value> <Type> <Text>Fax Number</Text> </Type> </Telephone> </pre> Values from Care360 Labs & Meds: PAGE = "BN" CELLULAR = "CP" FAX = "FX" HOME = "HP" NIGHT = "NP" TELEPHONE = "TE" WORK = "WP" EMAIL = "EM"	O
	<Email>	If an email address is available it will be included in the CCR message. The <Email> element is used only for the Prescriber communication numbers, and only the email address of the Prescriber is used. All other communication numbers are ignored. The Value and Type elements are all defined as xs:string type. Values from Care360 Labs & Meds: EMAIL = "EM"	O
	<URL>	Not currently used.	NS

CCR Attributes and Data Objects	XML Tag	Comments	Req'd ^a
Actors, <i>continued</i>	<Status>	The Status element is defined as xs:string type. Example: <Status> <Text>Active</Text> </Status>	O
	<Source>	The ActorObjectID of the Care Site or Hub Account. All of the elements in the Source element are defined as xs:string type. Example: <Source> <Actor> <ActorID> 0c32996a7f00010104507926d8e440fc </ActorID> <ActorRole> <Text>Primary Care Provider </Text> </ActorRole> </Actor> </Source>	R
	<InternalCCRLink>	Not currently used.	NS
	<ReferenceID>	Not currently used.	NS
	<CommentID>	Not currently used.	NS
References	<References>	Not currently used.	NS
Comments	<Comments>	Not currently used.	NS
Signatures	<Signatures>	Not currently used.	NS

a. R = Required, O = Optional, C = Conditional (required for drugs, optional for supplies), NS = Not Supported.

Sample CCR Message

The following is a sample XML message, formatted according to the “[CCR Message Specification](#)” on page 189.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
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  <CCRDocumentObjectID>0c3299627f0001010450792695a0fd38</CCRDocumentObjectID>
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  </DateTime>
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      <ActorRole>
        <Text>Primary Care Provider</Text>
      </ActorRole>
    </ActorLink>
  </From>
  <Body>
    <Medications>
      <Medication>
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          0c329ae17f00010104507926a3f3bb06
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          <Type>
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        </DateTime>
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          <Text>Medication</Text>
        </Type>
        <Status>
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        </Status>
        <Source>
          <Actor>
            <ActorID>0c329aef7f0001010450792624f1f5cd</ActorID>
            <ActorRole>
              <Text>Primary Care Provider</Text>
            </ActorRole>
          </Actor>
        </Source>
      </Medication>
    </Medications>
  </Body>
</ContinuityOfCareRecord>
```

```

<Product>
  <ProductName>
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      <Value>99220750917</Value>
      <CodingSystem>NDC</CodingSystem>
    </Code>
  </ProductName>
  <BrandName>
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  </BrandName>
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  </Strength>
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    <Dose>
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    </Dose>
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    </Route>
    <Frequency>
      <Description>
        <Text></Text>
      </Description>
    </Frequency>
    <Duration>
      <Description>
        <Text>35</Text>
      </Description>
    </Duration>
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</Directions>
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  </Instruction>
</PatientInstructions>
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  <Refill>
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    </Quantity>
  </Refill>
</Refills>
</Medication>
</Medications>
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```

```

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      </Name>
    </Person>
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      <Type>
        <Text>DEA</Text>
      </Type>
      <ID>888888</ID>
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          </ActorRole>
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    </Source>
  </Actor>

  <Actor>
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```

```

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    </Actor>
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      <ActorRole>
        <Text>Medical Information System</Text>
      </ActorRole>
    </Actor>
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</Actor>

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    </DateOfBirth>
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    </Gender>
  </Person>

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    </Source>
  </IDs>

  <IDs>
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    </Type>
    <ID>123456789</ID>
    <Source>

```

```

        <Actor>
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            <ActorRole>
                <Text>Primary Care Provider</Text>
            </ActorRole>
        </Actor>
    </Source>
</IDs>

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    <State>OH</State>
    <PostalCode>45040</PostalCode>
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<Telephone>
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    </Type>
</Telephone>
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</Telephone>

<Source>
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            <Text>Primary Care Provider</Text>
        </ActorRole>
    </Actor>
</Source>
</Actor>

<Actor>
    <ActorObjectID>Care360</ActorObjectID>
<InformationSystem>
    <Name>Medplus Care360 Physician Portal</Name>
    <Type>EMR</Type>
    <Version>4.0</Version>
</InformationSystem>
<Source>

```

```

    <Actor>
      <ActorID>0c32996a7f00010104507926d8e440fc</ActorID>
      <ActorRole>
        <Text>Primary Care Provider</Text>
      </ActorRole>
    </Actor>
  </Source>
</Actor>
</Actors>
</ContinuityOfCareRecord>

```


..... Glossary

Account ID

A unique identifier for a care site that uses Quest Diagnostics laboratory services. This is the identifier used by Quest Diagnostics for billing each care site.

Acknowledgment (ACK)

A message indicating that an action, such as downloading a lab result, has successfully been accomplished.

Admission Discharge Transfer (ADT)

A type of HL7 message used to communicate patient details to external applications. Patient Administration (ADT) messages are used to exchange the patient state within a health care facility. ADT messages keep patient demographic and visit information synchronized across health care systems. (See [Health Level Seven \(HL7\)](#).)

Adverse Drug Event (ADE)

An unexpected or dangerous reaction to a drug.

Ambulatory Care

Healthcare services provided without the patient being admitted to a facility. Also called outpatient care. The services of ambulatory care centers, hospital outpatient departments, physicians' offices, urgent care centers, and home healthcare services fall under this heading provided that the patient remains at the facility less than 24 hours. No overnight stay in a hospital is required.

Benefits

Specific areas of plan coverages (for example, outpatient visits, hospitalization, or pharmaceuticals) that make up the range of medical services that a payer markets to its subscribers.

Clinical Data Compendium (CDC)

A current collection of all reference data—for example, test codes, diagnosis codes, and Ask at Order Entry (AOE) questions—needed to create a complete and valid electronic order for submission to a Quest Diagnostics or to a third-party laboratory system.

Co-Pay

A cost-sharing arrangement in which the health plan subscriber pays a specified flat amount for a specific service (such as \$10 for an office visit or \$5 for each prescription drug). The amount paid must be nominal to avoid becoming a barrier to care.

Coordination of Benefits (COB)

Provision regulating payments to eliminate duplicate coverage when a subscriber is covered by multiple group or pharmacy benefit plans. The procedures set forth in a subscription agreement to determine which coverage is primary for payment of benefits to Members with duplicate coverage. Used by insurers to avoid duplicate payment for losses insured under more than one insurance policy. A coordination of benefits, or “non-duplication,” clause in either policy prevents double payment by making one insurer the primary payer, and assuring that not more than 100 percent of the cost is covered.

Coverage

Services provided within a given health or pharmacy care plan. Healthcare and drug benefit services provided or authorized by the payer’s medical staff or payment for healthcare services.

Detail Financial Transaction (DFT)

A type of HL7 message used to describe a financial transaction transmitted between systems, that is, to the billing system for ancillary charges, ADT to billing system for patient deposits, etc.

Diagnosis

The identification of a disease or condition through analysis and examination by a physician.

Drug Benefit

A benefit normally included with a medical plan that allows prescription medicine to be obtained using a benefit card. The member normally pays only a small co-payment or coinsurance amount for each prescription obtained.

Drug Interactions

Incidents that occur in the body when a medication is affected by another medications.

Drug Utilization Check

A system of drug use review that can identify potential adverse drug interactions, drug-condition conflicts, therapeutic duplication, drug-age conflicts, etc. There are three forms of drug utilization checks:

- *prospective*, which take place before dispensing
- *concurrent*, which take place at the time of prescription dispensing
- *retrospective*, which take place after the therapy has been completed

Appropriate use of an integrated drug-utilization check program can curb drug misuse and abuse, and monitor quality of care. This safety measure can reduce hospitalization and other costs related to inappropriate drug use.

Electronic Health Record (EHR)-Lab Interoperability and Connectivity Specification (ELINCS)

A messaging specification intended to standardize the electronic reporting of test results from clinical laboratories to electronic health record (EHR) systems. It is specific to the U.S. Realm and based on the 2.5.1 version of HL7, but includes additional constraints.

Electronic Medical Record (EMR)

Technology that meets provider needs for real-time data access and evaluation in medical care. In concert with clinical workstations, point-of-care devices, and clinical data repository technologies, the EMR provides the means for longitudinal data storage and access. The result will be increased efficiency, reduced cost, and improved quality of care.

Electronic Prescription

Prescription information that is created, stored, and transmitted via electronic means by computer or hand-held device. Does not apply to prescriptions communicated either by facsimile (fax) or over the phone.

Eligibility

A person entitled to receive benefits for healthcare services.

Emergency

Sudden unexpected onset of illness or injury which requires the immediate care and attention of a qualified physician, and which, if not treated immediately, would jeopardize or impair the health of an individual.

Formulary

List of preferred medications. They are used as a mechanism to encourage the use of less-costly drugs. Formularies should be updated frequently to reflect new drugs being introduced into the market, current clinical information, and information on drug interactions.

Health Level Seven (HL7)

A data interchange transaction protocol for healthcare technology applications that simplifies the ability of different vendor-supplied IS systems to assure inter operability. Although not a software program in itself, HL7 requires that each healthcare software vendor program HL7 interfaces for its products.

Healthcare Provider Directory (HPD)

An electronic listing of individual and organizational healthcare providers that are classified by provider type, specialties, credentials, relationships, demographics, and service locations. The standards for the Healthcare Provider Directory were developed by IHE (Integrating Healthcare Enterprise).

Hospital

Any facility duly licensed, certified, and operated as a hospital. Does not include a convalescent facility, nursing home, or any institution or part thereof which is used principally as a convalescence facility, rest facility, nursing facility, or facility for the aged.

Hospital Information System (HIS)

The common term for the computer hardware and software that provides the support of the hospital.

Hub Account

A unique account that enables an authorized external system (for example, EMR vendor) to interact with Care360 Hub Information Services.

Hub ID

A unique identifier assigned by Quest Diagnostics to each EMR system that is registered to receive lab results on behalf of a Quest Diagnostics account. This is the identifier given to EMR vendors (such as Web-based EMRs) that retrieve results for several accounts, as well as standalone EMRs that retrieve results for a single account. *See also* Account ID.

Interface

The code written and the specifications and protocols used for the electronic data exchange between Surescripts and the participants' and/or vendors' computing environments.

Logical Observation Identifiers Names and Codes (LOINC)

An industry database that is used to facilitate the exchange of pooling results for clinical care, outcomes management and research. LOINC codes are universal identifiers for laboratory and other clinical observations.

Master Files

Files containing a current collection of all reference data needed to create a complete and valid electronic order for a specific laboratory (either a Quest Diagnostics laboratory or a third-party laboratory). Master files are converted to the Quest Diagnostics CDC format for use within the *Lab Orders* component.

Master Patient/Member Index

An index or file with a unique identifier for each patient or member that serves as a key to a patient's or member's health record.

Medication and Eligibility Delivery Solution (MEDS)

Provides physicians with convenient access to up-to-date medication history for patients they are treating in an inpatient setting.

National Drug Code (NDC)

Each drug product listed under Section 510 of the Federal Food, Drug, and Cosmetic Act is assigned a unique 10-digit, 3-segment number. This number, known as the National Drug Code (NDC), identifies the labeler/vendor, product, and trade package size. The first segment, the labeler code, is assigned by the FDA. A labeler is any firm that manufactures, repacks or distributes a drug product. The second segment, the product code, identifies a specific strength, dosage form, and formulation for a particular firm. The third segment, the package code identifies package sizes. Both the product and package codes are assigned by the firm. The NDC will be in one of the following configurations: 4-4-2, 5-3-2, or 5-4-1.

Nonprescription Drug

A drug that can be purchased without a prescription order, sometimes referred to as over-the-counter (OTC) drugs.

Out-of-Pocket Costs

The portion of payments for health services that must be paid by the member, including co-payments, co-insurance, or deductibles.

Patient Consent

The written or verbal permission given by a patient for the release and use of their personal information.

Patient History

The record for a patient stating what prescriptions he or she has been issued while under a particular PBM.

Payer

The party or group an individual contracts with to cover healthcare services, unless the patient is paying out-of-pocket. This is sometimes referred to as a “third-party payer.”

Pharmacy Benefit Manager (PBM)

Organizations that provide administrative services such as processing and analyzing prescription claims for pharmacy benefit and coverage programs. PBMs rely on a complex network of relationships with pharmacies, drug manufacturers, health plans, employer groups, providers and patients, and use a variety of mechanisms to encourage cost-effective utilization of prescription drugs.

Physician Practice Management System (PPMS) Technology Provider

A physician practice management system company who supports medical office administration with applications and support.

Physicians Reducing Negative Events (PRNE)

Provides physicians in the ambulatory setting with patient-specific medication history and pharmacy benefit information at the point of care, thus giving the physician the ability to write an informed prescription.

Point-of-Care (POC) Technology Provider

A point-of-care technology company who supports prescribers with applications and support.

Prescriber

A health care provider licensed to prescribe drugs. Primary prescribers are physicians, but others may have prescriptive authority, depending on state statutes and laws. Other prescribers may include dentists, physician assistants, nurse practitioners and others may have authority to prescribe, typically within specific limits.

Prescription Drug

A drug that is restricted to sale only after issuance of a prescription order by a licensed prescriber. Package includes a label that states: “Caution: Federal law prohibits dispensing without a prescription order.”

Provider

An organization that provides information or data to Care360 Hub Information Services. Organizations can include reference labs, esoteric labs, hospitals, payers, radiology clinics, clearinghouses, pharmacies, or Pharmacy Benefit Managers (PBMs). Also referred to as *service provider*.

Provider Account

An organization that uses the services of a provider, such as a physician’s office, an IPA, a clinic, or a hospital. The provider account uniquely defines the organization, allowing accurate distribution of data to an authorized entity.

Quality

Can be defined as a measure of the degree to which delivered health services meet established professional standards and judgments of value to the consumer. Quality may also be seen as the degree to which actions taken or not taken impact the likelihood of beneficial health outcomes and minimize risk and other undesired outcomes, given the existing state of medical science and art.

Refill

The process of getting a valid, approved prescription filled one or more times after the initial prescription without consulting the prescribing physician again.

Renewal

The term used when a prescription has exhausted all of its refills and requires the physician to authorize a new prescription. This is considered renewing a prescription.

Request ID

A unique identifier that references a specific request for lab results made by an EMR system and received by Care360 Hub Information Services. This identifier is assigned to a request upon receipt of the request message. The Request ID is unique across all Care360 Hub Information Services accounts.

SAML Browser/Artifact

A data exchange model by which SAML messages are created by an issuer (EMR), and an artifact (small string token) is transmitted to the consumer (Care360). The consumer is then responsible for making a call back to the issuer site with the artifact, so that the issuer can retrieve the actual SAML message for processing.

SAML Browser/POST

A data exchange model by which SAML messages are digitally signed and transmitted from the issuer (EMR) to the consumer (Care360) via the user’s Web browser, or through some HTTP connection simulating a browser. The consumer does not make a callback request to the issuer, and is able to verify the SAML message using the provided signature.

Script Information Gateway (SIG)

Provides direct, electronic delivery of a new prescription from a prescriber to the pharmacy of the patient's choice. It also enables the pharmacy to send a renewal request or a change request to the prescriber and receive an immediate response.

Security Assertion Markup Language (SAML)

An XML standard for exchanging authentication and authorization data between security domains (that is, between an identity provider and a service provider). SAML is a product of the OASIS Security Services Technical Committee.

Service Scope

The account-based scope defined by a request for lab results. Specifically, this scope definition provides the EMR vendor the capability of receiving results for every registered care site account associated with a specific Hub ID, or, alternatively, receiving results for specific accounts as defined by their account IDs.

Single Sign-On (SSO)

The practice of facilitating user login to a single site or application, and then allowing that same user access to another site or application without requiring the user to enter a second set of user credentials (*User ID* and *Password*).

Step Therapy

When a new, expensive drug comes out, and there are less costly alternatives available, PBMs (formularies) may require step therapy or documented proof that the lower-cost alternatives were tried first, and failed before approving the more expensive drugs.

Subscriber

An individual who is a member of a benefits plan. For example, in the case of family coverage, one adult is ordinarily the subscriber. A spouse and children would ordinarily be dependents.

Technology Provider

A healthcare technology company that develops applications to support physicians with practice management, electronic prescribing, electronic medical records, or similar office automation products.

Test In Question (TIQ)

A test that was not completed because insufficient information was available (for example, if the physician sent two specimens but ordered only one test).

Test Not Performed (TNP)

A test that was not performed because it was cancelled or because it was not possible for the lab to perform the test (for example, if the amount of specimen collected was not sufficient or viable).

Textual Results

Clinical results that are received in a textual (non-discrete) format, such as radiology results, cardiology results, etc.

Third-Party Payment

Payment or reimbursement amounts that are established by third-party drug programs for prescriptions and services dispensed to recipients.

Time Scope

The time-based scope defined by a request for lab results. Specifically, this scope definition allows the EMR vendor to receive the latest (previously unretrieved) results, or, alternatively, to receive results ordered within a specific time frame.

Transcribed Document

Any content that has been dictated by a clinician and subsequently transcribed into a document. This could include discharge summaries, operative notes (Op), surgical notes, history and physicals notes (H&P), physician referral notes, etc. The message format structure for a transcribed document is typically an HL7 MDM message type.

User

An administrator who is authorized to access Hub Information Services—Administration to perform management tasks, or an authorized account used by a vendor to interact with Care360 Hub Information Services.

Vendor

An organization that connects to providers to distribute information or data to their customers. Customers of vendors typically include physicians' offices, IPAs, clinics, and hospitals. Also referred to as *EMR vendor*.

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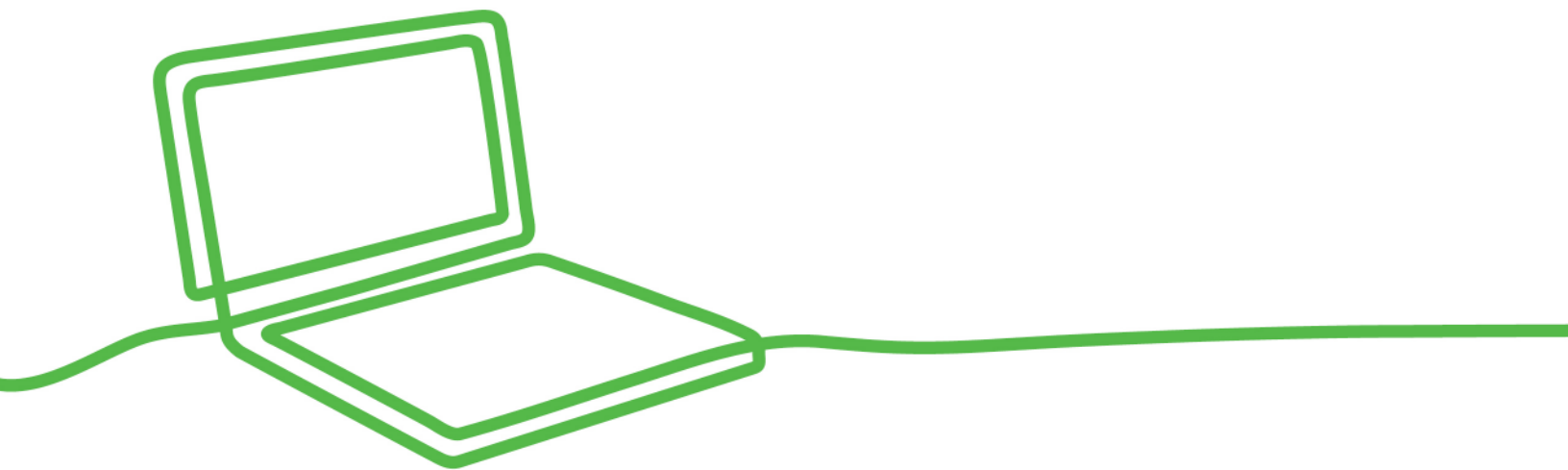
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